HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING THE YEAR

1923

WITH OBSERVATIONS UP TO JUNE 30TH, 1924.

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LIVERPOOL.

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Table of Births, Deaths and Infant Mortality Rates, 1881 to 1923.

Ministry of Health Tables of Population, Births, Deaths, Infantile Mortality and Infectious Sickness. Tables I, II, III and IV.

Table of Total Deaths registered in the City.

PREFACE.

Vital Statistics.

A satisfactory feature of the present Report upon the Health of the City is the slight increase in the Birth Rate; an even more gratifying one is the further decline in the death rate to 13·7 per 1,000 of the population, a figure which constitutes a record for Liverpool, and which is in marked contrast with 1895, the first year which comprised the extended area of Greater Liverpool, when the death rate was 24·8. The reduction in infant mortality has also been maintained, namely, 99 per 1,000 births during the year, as compared with 202 per 1,000 births in 1895.

Analytical details of these figures, and evidences of the steady improvement, simplified by charts and diagrams, will be found in the succeeding pages of the Report, which also contains details in reference to the sources and prevalence of the various infections. The reference

Encephalitis Lethargica.

to Encephalitis Lethargica, quite incorrectly but popularly known as "Sleeping Sickness," will be read with interest in view of the happily rare character of the disease.

Demands upon Hospitals Accommodation.

It is to be noted that in Liverpool, under ordinary and normal circumstances, a larger proportion of the inhabitants seek hospital assistance in times of sickness, than in any other city in the country, a fact which evidences the dependence upon the Municipality or the Boards of Guardians of a very large section of the community at those times; it also bears testimony to the public confidence in the institutions provided. Latterly, under existing housing conditions, claims have increased.

Care of the Blind.

A new duty imposed upon the Health Committee is that of the administration of the Blind Persons Act, 1920, the results of which will be beneficial to the blind.

Maternity and Child Welfare.

With the increasing appreciation of the value of the developments in regard to the welfare of maternity and childhood these continue to be more fully utilised. Much attention is now being paid to the health of the prospective mother, and nothing is neglected which it is possible to

apply, with a view to lessen the mortality of child-birth. In this connection the Carnegie Centre, which was opened on December 15th, 1923, is proving a most valuable addition to the administrative equipment of the City. The photographs facing page 74 are suggestive of the scope of its work.

Carnegie Centre.

Prevention and Treatment of Venereal Diseases.

The Seamen's Dispensary, which was opened in January, 1924, is proving most valuable in dealing with Venereal Diseases. The Medical Officer of Health hopes that at an early date the proposals in regard to additional powers to deal with Venereal Diseases will be allowed to go forward for consideration by Parliament. The City Council and the neighbouring Riparian Authorities are unanimous in their approval of these proposals, and many persons who originally opposed them have now realised their necessity.

Tuberculosis.

The acquisition of Highfield is an important stage in the treatment of Tuberculosis; the experiments with the Arc Light equipment installed at the Fazakerley Sanatorium are being watched with close interest.

Abattoirs.

A great advance has been made towards the provision of the much-needed Abattoirs, a subject which for many years has been discussed and re-discussed, and it is hoped that there will be no further delay in bringing into being this eminently needed establishment.

Housing.

The position in regard to housing is still unhappy. A few typical letters are inserted, illustrative of the thousands received from applicants for houses; they indicate more clearly than anything else can, the needs of the applicants. No one questions that the existing housing conditions, unless they can be met, will have a grave effect upon the health of the City, but no one doubts that the matter is receiving attention, and that it is being grappled with in a manner which promises some solution of the trouble.

Health Legislation.

Some interesting evidence indicative of the exceptional Health problems of Liverpool may be found in the frequency of applications to Parliament for the necessary powers to meet them.

The earlier of these applications, as well as the criticisms to which they were subjected, reveal but little support from public opinion, and as

a consequence the measures asked for were often too hesitating in character, and inadequate to meet the needs, and consequently had to be supplemented later on by further applications.

Curiously enough, opposition came sometimes from Government Departments presumably interested in the advancement of the Public Health, and the opposition put forward by these bodies at the Parliamentary Inquiries was sometimes temporarily effective and led to the rejection of the application, and it was not until after several years had elapsed and the Corporation again put forward its application that the necessary powers were granted. On the other hand, there are numerous instances in which, after these measures had been in operation, the Government were so favourably impressed by the results, that ultimately those powers were extended and made applicable to the whole country.

Since the year 1883 the Corporation of Liverpool have promoted Parliamentary Bills dealing with the health of the City on no less than fourteen different occasions, in addition to Parliamentary or other procedure in connection with the extension of the City boundaries, based upon health considerations. Besides these, many applications have been made to the Local Government Board or the Ministry of Health, and progress has been stimulated by Orders issued by those Departments under Parliamentary Powers or by general legislation applicable to the whole country.

Briefly the applications to Parliament chiefly concerned such measures as—

The Treatment of Insanitary Areas,

Cellar Dwellings,

Water Supply,

Dairies and Cowsheds,

The wholesomeness and supervision of Food Supplies,

Prevention of Infection, and kindred matters,

The wholesomeness and structural suitability of premises where certain trades and industries are carried on,

Smoke abatement, and so forth.

It has long since been recognised that education in public health matters is a strong ally, and hence it is that so much attention is now being given to the subject, and that educative methods are adopted; the facilities given at the School of Hygiene, and in many other ways, make it clear what the science of Public Health really stands for. So far, the results of these methods have been highly encouraging, and they well deserve the fullest application possible.

E. W. HOPE,
Medical Officer of Health

Public Health Department,
Municipal Buildings,
Liverpool, 31*st July*, 1924.

STATISTICS

RELATING TO

BIRTHS, DEATHS, AND CAUSES OF DEATH, &c.,

ZYMOTIC DISEASES AND THEIR INCIDENCE.

SUMMARY

OF

VITAL STATISTICS FOR 1923.

Area of City	**21,219**	**Acres.** (33 square miles)
Population (estimated to the middle of the year)	**829,881**	
Births	**20,695,**	**Birth-rate 24·9.**
Deaths	**11,405,**	**Death-rate 13·7.**
Infantile Mortality	**2,058**	**Deaths under one year.**
Infant Mortality Rate	**99**	**per 1,000 Births.**
Zymotic Death-rate (7 principal Zymotic Diseases)	**0·85**	**per 1,000.**
All forms of Tuberculosis (including Phthisis)	**1·6**	**per 1,000.**
Phthisis Death-rate	**1·3**	**per 1,000.**

BIRTHS.

The number of births recorded during the year 1923 within the City was 20,695, equal to a rate of 24·9 per 1,000 of the population, the average of the previous five years (1918-1922) being 25·7. Of the total births, 10,513 were males and 10,182 were females. The number of illegitimate births was 773, or 3·7 per cent. of the total births, 420 being males and 353 females.

The Registrar General intimated that 326 births (166 males and 160 females) should be added to and 264 births (136 males and 128 females) deducted from the total number of births registered in the City. These corrections for transferable births having been made the net figures are as given above.

The birth-rate in the City of Liverpool is considerably above the average of the great towns, which is 20·4 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate is 19·7 per 1,000, for the year 1923.

REGISTRATION DISTRICTS.

By an Order of the Registrar General, dated 14th December, 1923, the following alterations in the Registration Districts of the City were made as from 1st January, 1924, viz. :—

The Exchange Sub-District is extended by the inclusion of Scotland Sub-District.

West Derby West Sub-District to be known as The Edge Hill Sub-District.

Wavertree Sub-District is extended by the inclusion of the Districts of Aigburth, Childwall, Allerton and Garston.

The Toxteth Park South West Sub-District is extended by the addition of the Toxteth Park North West Sub-District—the new District to be known as Toxteth Park West Sub-District.

Much Woolton and Little Woolton are brought into the Liverpool Registration District, and are to be known as the Woolton Sub-District.

These alterations will necessitate several minor alterations in the records of vital statistics shown in future reports.

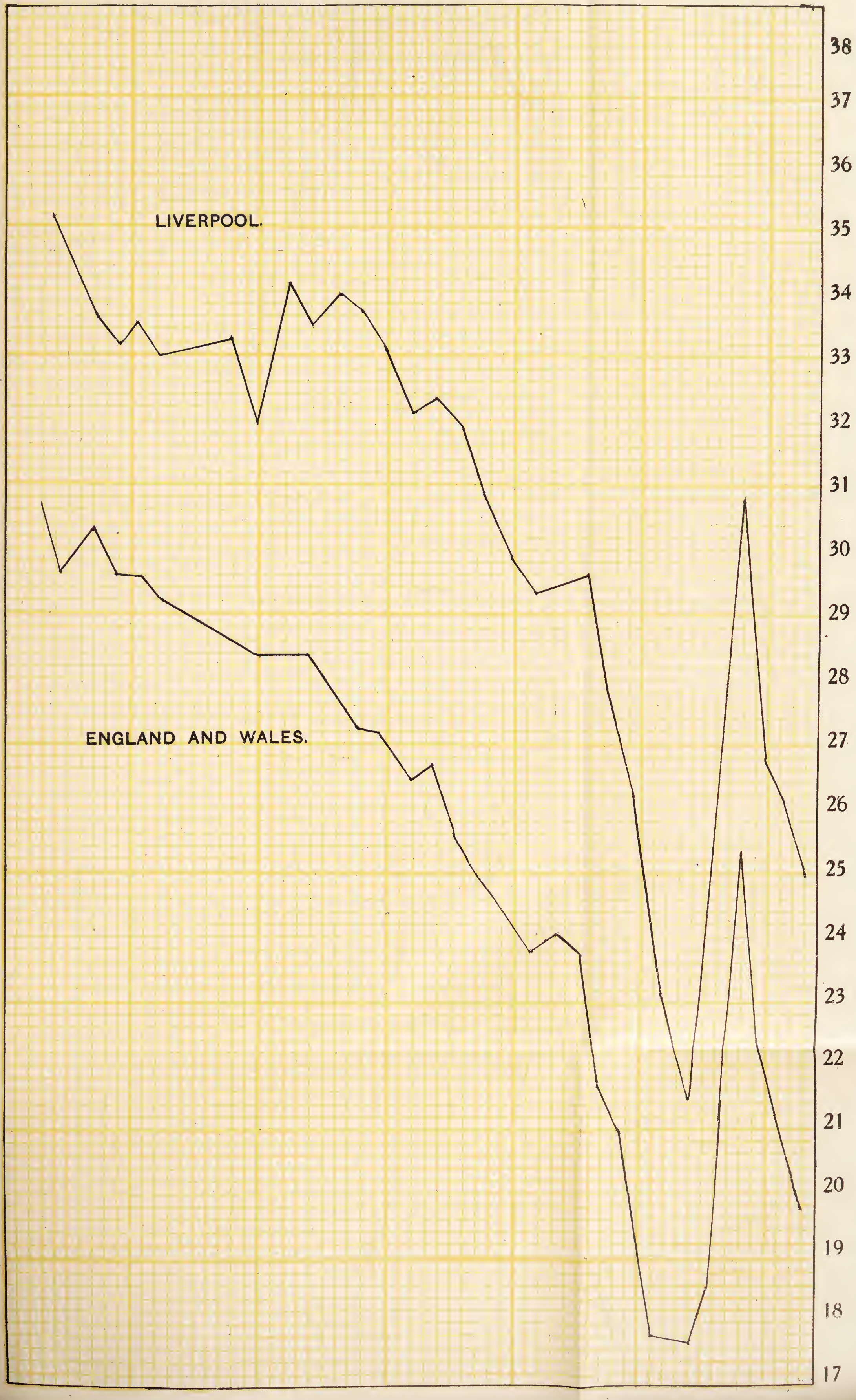
The following table shows the population, number of births and deaths, and the rates per 1,000 in each district of the City for the year 1923 :—

Districts.	Estimated Population 1923.	Births.		Deaths.	
		Number of Births.	Rate per 1,000.	Number of Deaths.	Rate per 1,000.
SCOTLAND	46,639	1,652	35·4	814	17·4
EXCHANGE	36,010	1,137	31·6	761	21·1
ABERCROMBY	46,750	1,115	23·8	796	17·0
EVERTON	128,752	3,612	28·0	1,924	14·9
KIRKDALE	72,151	1,851	25·7	956	13·2
WEST DERBY (WEST) ...	94,613	2,327	24·6	1,287	13·6
TOXTETH	112,014	2,882	25·7	1,508	13·5
WALTON	86,065	1,603	18·6	973	11·3
WEST DERBY (EAST) ..	79,930	2,058	25·7	932	11·7
WAVERTREE	46,036	908	19·7	540	11·7
TOXTETH (EAST)... ...	35,261	553	15·7	442	12·5
GARSTON	29,692	645	21·7	315	10·6
FAZAKERLEY	6,256	121	19·3	49	7·8
WOOLTON	9,712	231	23·8	108	11·1
	829,881	20,695	24·9	11,405	13·7

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BIRTH RATE, 1893-1923.

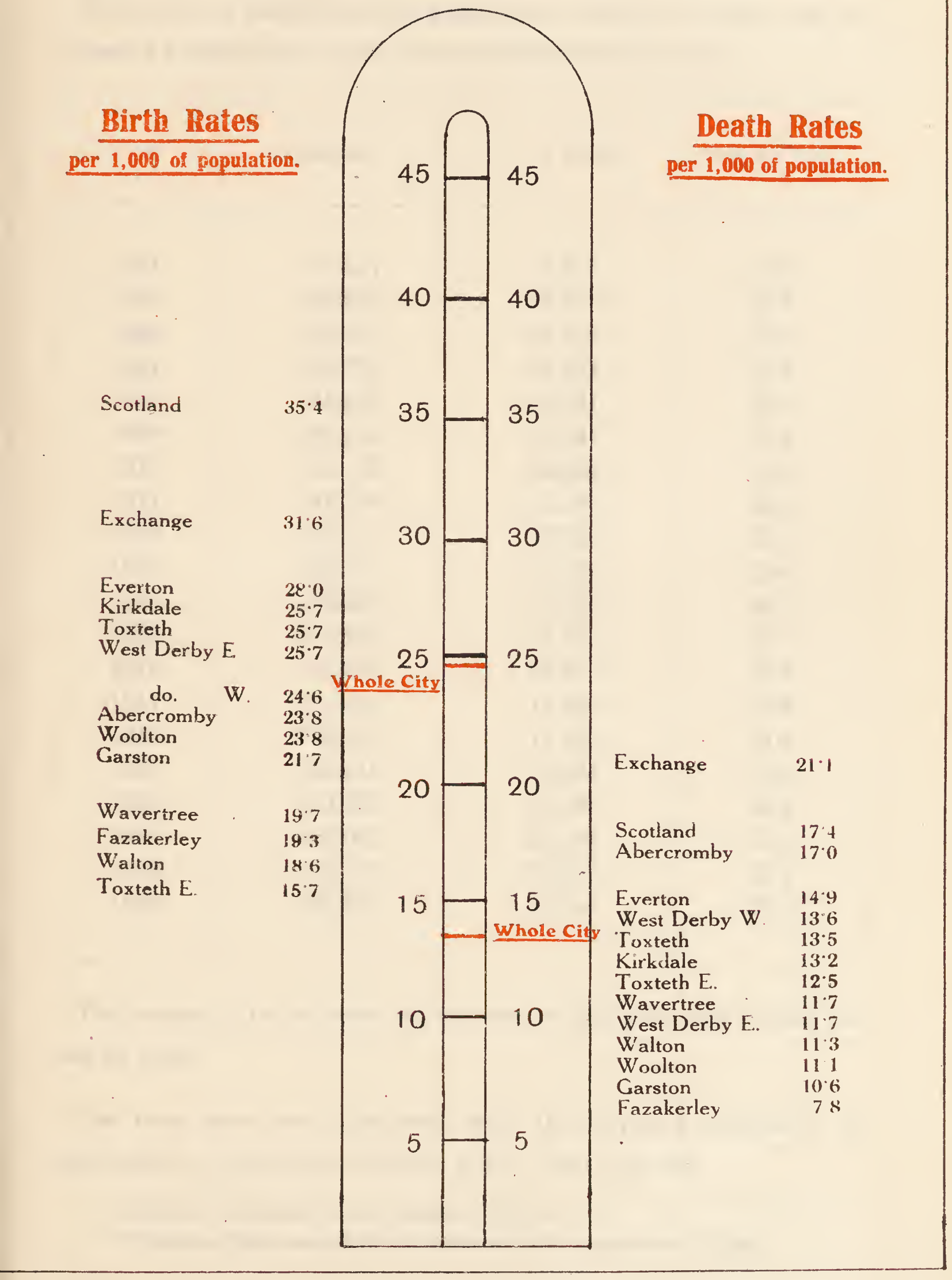
1893 4. 5. 6. 7. 8. 9. 1900. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 1. 2. 3. 4. 5. 6. 7. 8. 9. 20. 1. 2. 3.



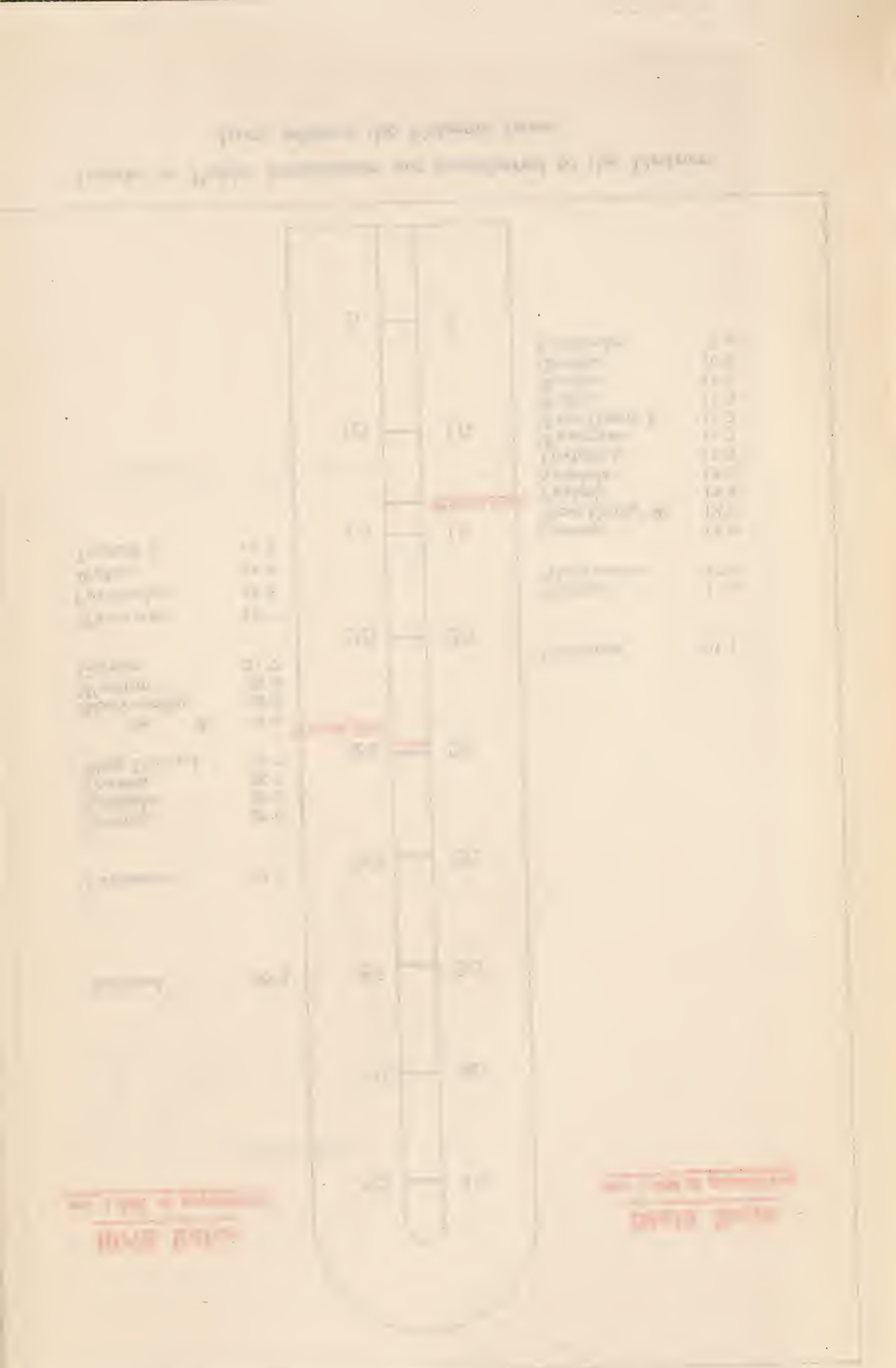


CITY OF LIVERPOOL.

Comparative view of the Birth and Death Rates per 1,000 in the different districts of the City during the year 1923.



Deaths in Public Institutions are transferred to the Districts from whence the Patients came.



The following table shows the population, number of births, and the corrected birth-rate per 1,000 during the last twenty years:—

Year.	Population.	No. of Births.	Rate per 1,000.
1904	717,647	24,278	33·8
[1] 1905	724,583	24,350	33·6
1906	728,155	24,123	33·1
1907	731,798	23,654	32·3
1908	735,423	23,891	32·5
1909	739,073	23,591	31·9
1910	742,742	23,054	31·0
1911	747,998	22,493	30·0
1912	754,143	22,233	29·5
[2] 1913	760,341	22,555	29·6
1914	773,467	23,065	29·8
1915	779,535	21,586	27·7
1916	785,657	20,679	26·3
1917	791,828	17,906	22·6
1918	798,048	17,133	21·5
1919	804,316	18,694	23·2
1920	810,632	25,039	30·9
1921	817,000	21,904	26·8
1922	823,416	21,467	26·1
1923	829,881	20,695	24·9

The foregoing table shows the decrease in the birth-rate during the last 20 years.

The rates have been calculated upon the corrected population as ascertained by the Census Returns of 1901, 1911 and 1921.

[1] Fazakerley included with a population of 2,892.

[2] Woolton, Allerton and Childwall included with a population of 6,882.

DEATHS.

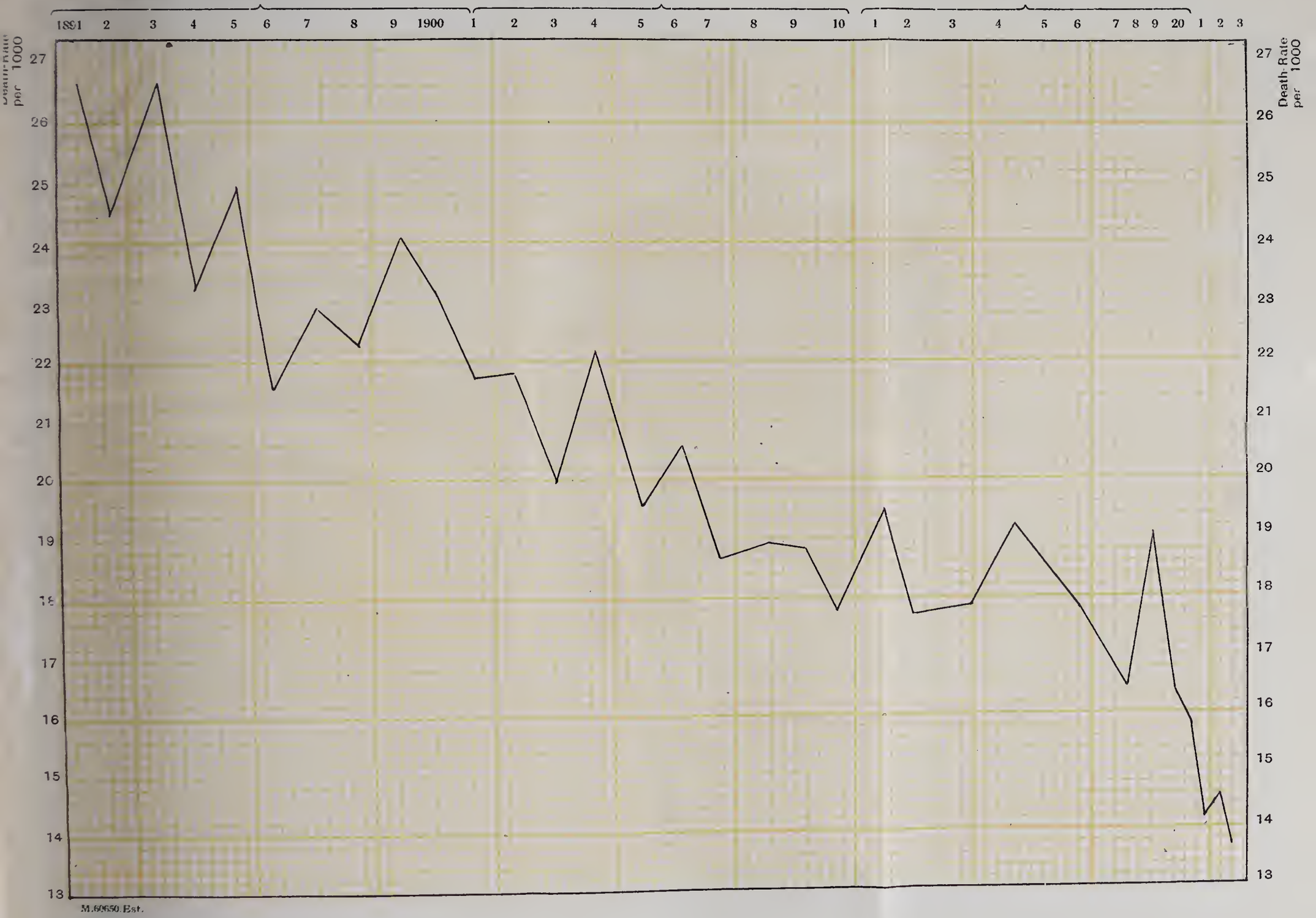
The following table shows the population, number of deaths, and the corrected death-rate per 1,000 during the last twenty years:—

Year.	Population.	No. of Deaths.	Rate per 1,000.
1904	717,647	15,851	22·1
[1] 1905	724,583	14,103	19·5
1906	728,155	15,001	20·6
1907	731,798	13,676	18·7
1908	735,423	13,930	18·9
1909	739,073	13,945	18·8
1910	742,742	13,343	17·9
1911	747,998	14,607	19·5
1912	754,143	13,364	17·7
[2] 1913	760,341	13,658	18·0
1914	773,467	15,046	19·4
1915	779,535	14,478	18·6
1916	785,657	13,943	17·7
1917	791,828	13,093	16·5
1918	798,048	15,267	19·1
1919	804,316	13,283	16·5
1920	810,632	12,852	15·8
1921	817,000	11,666	14·3
1922	823,416	11,992	14·6
1923	829,881	11,405	13·7

[1] Fazakerley included. [2] Woolton, Allerton and Childwall included.

NOTE.—The rates have been calculated upon the corrected population as ascertained by the Census Returns of 1901, 1911 and 1921.

CITY OF LIVERPOOL. DEATH RATE, 1891-1923.





Analysis of Decline in Mortality.

The accompanying tables (pages 8 and 9) show the deaths that have occurred in the City of Liverpool during the past 53 years. These have been separated into five principal classes of disease that are likely to be affected by the activities of the Health and other Municipal Departments, namely, "Infective" Diseases, Tubercular Diseases, Respiratory Diseases (including Influenza), and Digestive Diseases (including Diarrhœa and Enteritis). These classes include practically all diseases of infective origin. The deaths from Cancer are placed in a separate column.

Despite the very great increase in population since 1871, the present population having nearly doubled since then, the actual numbers of deaths per annum has fallen from an average of 14,700 in the decenium 1871-1880 to 11,405 in the year 1923. The death-rate has fallen from 28·5 to 13·7 per thousand, a fall of over 50 per cent.

The greatest proportional decline has been experienced in the group of Infectious Diseases, which includes all the infectious diseases with the exception of Influenza; the decline has been steady and uniform, and the deaths now registered in this group exhibit a decline of no less than 80 per cent. during the 53 years.

A similarly steady decline has been shown by the Tubercular Diseases, which have fallen to 43·9 per cent. of the earlier figure.

In the group of Respiratory Diseases, although a decline has occurred, it has not been continuous, rises occurring in 1881-90 and in 1911-20, due in both cases to the prevalence of influenza. Although an actual decline in respiratory deaths has occurred this decline is not commensurate with that recorded in deaths from all causes, and the there has been a most marked and rapid decline from 107 to 33 per cent. during the period under review.

Digestive Diseases, of which the Diarrhœa and other Digestive Diseases of infants form by far the most important section, showed at first a slight decline from 1871 to 1890; in 1891-1900 there was a rise to 107 per cent. of the rate experienced in 1871-80. From that time on there has been a most marked and rapid decline from 107 to 33 per cent. of the 1871-80 mortality. This decline coincides in time with the great efforts that have been put forward in this City for the prevention of infantile mortality.

In marked contrast with the decline in these preventable diseases is the rise in Cancer mortality. As little is known of its causation it is not amenable to preventive measures.

CITY OF LIVERPOOL.

DEATHS FROM CERTAIN GROUPS OF DISEASES IN EACH DECADE FROM 1871 to 1920 and DURING 1921 to 1923.

Years.	(a) Infective diseases (less Diarrhœa and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhœa).	Total Deaths from Classes (a),(b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	27,205	19,869	29,763	14,747	91,584	2,015	147,005
1881-1890	19,748	17,870	32,507	13,186	86,311	2,820	146,195
1891-1900	13,515	16,714	35,819	18,491	84,539	4,223	145,522
1901-1910	13,967	16,054	32,995	18,163	81,179	6,480	150,962
1911-1920	10,417	14,946	36,480	12,282	74,125	7,603	137,223
1921	882	1,342	2,683	1,120	6,027	890	11,666
1922	709	1,326	3,501	673	6,209	848	11,992
1923	860	1,309	2,870	763	5,502	921	11,405
DEATHS EXPRESSED AS A PERCENTAGE OF TOTAL DEATHS FROM ALL CAUSES (Proportionate Mortality).							
1871-1880	19·2	13·5	20·2	10·0	62·3	1·4	100·0
1881-1890	14·1	12·7	23·2	9·4	59·4	2·0	100·0
1891-1900	9·3	10·8	24·6	12·7	57·4	2·9	100·0
1901-1910	8·6	10·6	21·8	12·0	53·0	4·3	100·0
1911-1920	7·9	10·9	27·3	8·9	55·0	5·5	100·0
1921	7·6	11·5	22·4	9·5	51·7	7·6	100·0
1922	5·8	11·1	29·1	5·6	51·7	7·1	100·0
1923	7·5	11·5	25·1	6·7	48·3	8·7	100·0

DEATH RATES PER 1000 POPULATION.

Years.	(a) Infective diseases (less Diarrhœa and Influenza).	(b) Tubercular diseases	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhœa).	Total Deaths from Classes (a), (b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	5·2	3·6	5·7	2·8	17·4	0·4	28·5
1881-1890	3·6	3·2	5·9	2·4	15·6	0·5	26·1
1891-1900	2·2	2·7	5·9	3·0	13·8	0·7	23·9
1901-1910	1·9	2·2	4·5	2·5	11·1	0·9	20·0
1911-1920	1·35	1·90	4·73	1·59	9·8	1·0	18·1
1921	1·08	1·64	3·29	1·37	7·4	1·09	14·3
1922	0·86	1·60	4·25	0·82	7·5	1·03	14·6
1923	1·03	1·58	3·46	0·92	6·6	1·11	13·7

DEATH-RATES EXPRESSED AS A PERCENTAGE OF THE RATES EXPERIENCED IN 1871-1880 (Index Numbers).

1871-1880	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1881-1890	69·0	88·0	104·0	85·7	89·1	125·0	91·0
1891-1900	42·0	75·0	104·0	107·2	79·3	175·0	84·0
1901-1910	36·0	61·0	79·0	89·3	64·3	225·0	70·0
1911-1920	26·0	50·0	83·0	56·7	56·0	250·0	67·0
1921	20·8	45·5	57·7	48·9	41·2	272·5	50·2
1922	16·5	44·4	74·5	29·3	43·1	257·5	51·2
1923	19·8	43·9	60·7	32·8	37·9	277·5	48·1

THE FOLLOWING TABLE SHOWS THE ANNUAL RATE OF MORTALITY PER 1,000 AS WELL AS THE TOTAL NUMBER OF DEATHS AT EACH OF TWELVE AGE-PERIODS DURING THE YEAR 1923 IN LIVERPOOL.

1923.	* Under 1 year.	1 to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 and up-wards.	Total at all Ages.
Rate of Mortality per 1,000 living at ages indicated.	99·0	39·3	11·1	2·6	2·5	4·3	5·8	9·7	19·6	40·7	91·4	187·7	13·7
Total Number of Deaths at each Age-Period.	2058	841	480	224	425	580	701	1027	1383	1629	1473	584	11405
Approximate Population	20337	21366	43265	86656	166493	135156	120677	106096	70655	39959	16109	3112	829881

* Column I. indicates the rate of mortality under one year per 1,000 births during the year.

The total death-rate of the City during the year was 13·7 per 1,000 of the estimated population, the average rate of the preceding five years (1918-1922) being 15·9. Full statistical details in regard to the various causes of death are set out in the tables to be found in the Appendix.

The deaths in public institutions numbered 5,477, and included 649 persons who were non-residents in the City area, indicative of the large proportion of the people who in times of sickness have recourse to public and charitable institutions. The number of deaths in the various institutions are shown in the following table:—

	Total Deaths.	Deaths of non-residents.
Parish Institution (Brownlow Hill)	955	17
Royal Infirmary	300	96
Royal Liverpool Children's Hospital	206	36
Maternity Hospital	57	6
Consumption Hospital	35	24
Hahnemann Hospital	13	—
Samaritan Hospital	4	1
Eye and Ear Infirmary	10	2
David Lewis Northern Hospital	226	61
Stanley Hospital	119	24
Royal Southern Hospital	146	18
Mill Road Infirmary	738	40
Hospital for Women	24	15
City Hospital North	18	1
Do. South	50	—
Do. East, Mill Lane	87	1
Do Fazakerley	129	5
Do. do. Annexe	16	—
Do. Sparrow Hall	4	—
Do. Garston	12	—
Carried forward ...	3,149	347

	Total Deaths.	Deaths of non-residents.
Brought forward ...	3,149	347
Sanatorium Fazakerley	78	1
Do. Parkhill	32	—
Do. Highfield	185	3
Kirkdale Homes	9	—
Walton Institution (Rice Lane)	838	198
Belmont Road Institution	41	4
Cottage Homes, Wavertree	—	—
St. Joseph's Home	42	13
Toxteth Institution (Smithdown Road) ...	520	2
Home for Incurables	15	5
House of Providence	5	4
Tuebrook Villa Asylum	1	—
Turner Memorial Home	5	3
St. Augustine's Home	23	4
Alder Hey Hospital	479	40
H.M. Prison, Walton	4	—
Other Institutions	51	25
	5,477	649

INFECTIOUS SICKNESS.

Liverpool is closely associated with all parts of the world by reason of the large volume of shipping continually arriving in the port, and in consequence the City is peculiarly liable to the importation of various forms of infectious disease. The measures which have been adopted have been successful in preventing any outbreaks of a serious nature obtaining a footing in the City.

The following table shows the number of cases of Infectious Disease notified during 1923, the number of deaths registered from these diseases, the death rates per 100,000 of the population, and the percentage proportion of deaths to cases.

	Smallpox.	Enteric Fever.	Scarlet Fever.	Measles.	Diphtheria.	Puerperal Fever.	Erysipelas.	Cerebro-spinal Fever.	Poliomyelitis	Encephalitis Lethargica.	Malaria	Whooping Cough.
.....	1	16	2,307	11,089	993	43	395	9	39	111	36	2,261
.....	—	6†	43	356	87	16	27	6	5	36	3	156
rate per 100,000	—	0·7	5·2	42·9	10·5	74*	3·2	0·7	0·6	4·3	0·4	18·9
age of Deaths ses	—	37·5	1·8	3·2	8·8	37·2	6·9	66·6	12·8	32·4	8·5	6·9

* Death rate per 100,000 Births.

† Two of these were deaths of Seamen and one was an inward transfer (death in London).

PLAGUE.

No cases of Plague occurred in the City during the year. Of the 9,818 rats examined bacteriologically during the year not one was found infected with plague.

SMALLPOX.

There was only one case of Smallpox which came to notice in Liverpool during the year 1923, which was landed at Glasgow from the s.s. "Romera," from Patras, during the incubation stage, and came through to Liverpool by train. He was notified on account of his illness, and was at once removed to Hospital. All known contacts were re-vaccinated and kept under observation. No further developments occurred.

The following table is of interest as shewing the constant importations of smallpox into a large seaport, and the consequent developments in the City. Liverpool experiences the danger of the spread of smallpox by general passenger traffic, as in the case of inland centres of population, but, in addition, it runs the risk of importation of smallpox by sea. The risk of infection is still further increased through Liverpool being associated with a large influx of outward-bound emigrants of all nationalities as well as from the traffic of crews resident in other areas joining their vessels sailing from Liverpool.

Year.	Imported by Sea or Overland	Reported in the City.	Removed to Hospital.	Percentage Removed.
1881	16	246	199	79·95
1882	7	60	56	83·58
1883	12	114	105	83·33
1884	11	821	743	89·30
1885	11	364	342	91·2
1886	2	232	215	91·88
1887	2	21	23	100·0
1888	9	18	19	73·73
1889	8	1	8	88·88
1890	2	...	2	100·0
1891	10	11	21	100·0
1892	10	167	177	100·0
1893	12	63	73	97·33
1894	6	223	227	99·12
1895	7	130	117	98·15
1896	7	3	10	100·0
1897	2	4	6	100·0
1898	9	8	16	94·11
1899	6	4	10	100·0
1900	32	124	154	98·71
1901	20	17	37	100·0
1902	A considerable outbreak occurred in the City during 1902 (560 cases) and 1903 (1720 cases) the vast majority of these cases were due to infection from persons, or things, within the City and coincident with an outbreak in the country generally rather than fresh importations by sea or overland.			
1903				

Year.	Imported by Sea or Overland	Reported in the City.	Removed to Hospital.	Percentage Removed.
1904	7	20	27	100·0
1905	6	9	15	100·0
1906	9	10	19	100·0
1907	4	15	19	100·0
1908	5	2	7	100·0
1909	6	3	9	100·0
1910	4	6	10	100·0
1911	17	2	19	100·0
1912	2	2	4	100·0
1913	12	1	13	100·0
1914	2	...	2	100·0
1915	...	...	...	...
1916	7	...	7	100·0
1917	1	2	3	100·0
1918	2	...	2	100.0
1919	7	13	20	100·0
1920	4	6	10	100·0
1921	...	...	...	...
1922	2	2	4	100·0
1923	4	1	5	100·0

VACCINATION IN ENGLAND AND WALES.

The Vaccination Acts of 1898 gave effect to certain of the resolutions of the Royal Commission on Vaccination. The following were amongst the recommendations:—

1. The vaccination of children in their homes instead of being compelled to bring them to a Station to be vaccinated by the Public Vaccinator.

2. The use of glycerinated calf lymph was substituted for the arm-to-arm vaccination previously in vogue.

3. A parent who conscientiously believed that the operation of vaccination would be prejudicial to his child's health might escape the penalty under the Act by satisfying two Justices of the Peace, or a Stipendiary Magistrate, of his conscientious belief.

On the subject of granting certificates, the views of Justices as to the powers and duties were at variance, and there was considerable difficulty in administering the Act.

The vaccination of children in their homes, and the opportunity of obtaining glycerinated calf lymph, however, stimulated vaccination for a time.

In 1907 another Act was passed which gave the conscientious objector greater facility in obtaining his exemption, it only being necessary, under this Act, for him to make a statutory declaration of his objection before a Commissioner of Oaths, and pay the usual fee of a few shillings. If he sent this, within seven days, to the Vaccination Officer, he was free from all further compulsion.

The effect of these Acts is well shewn in the Chart appended. The effect of the 1907 Act on births vaccinated was the opposite of the Act of 1898. The percentage of births vaccinated in 1906 was 73·4 per cent., in 1907 it was 70·9 per cent., in 1908 it was 62·2 per cent., and in 1920 it reached the deplorable figure of approximately 40·0 per cent. of the children born in England and Wales.

Experience has shewn that there is very little real objection to vaccination in this country. It mainly rests with the mothers, who really concern themselves very little as to its protective value against smallpox. In the absence of epidemic smallpox the need of protection is not realised. The recent experience in Glasgow in 1920 and in other centres shews that when the disease takes on an epidemic character the people flock in thousands to be vaccinated, but in many cases too late to acquire the necessary protection.

Liverpool is said to be well vaccinated, and this is a matter for congratulation, seeing that it is an important seaport, and the danger of the importation of smallpox amongst the community requires a constant watchfulness on the part of the Public Health Authorities.

TYPHUS FEVER.

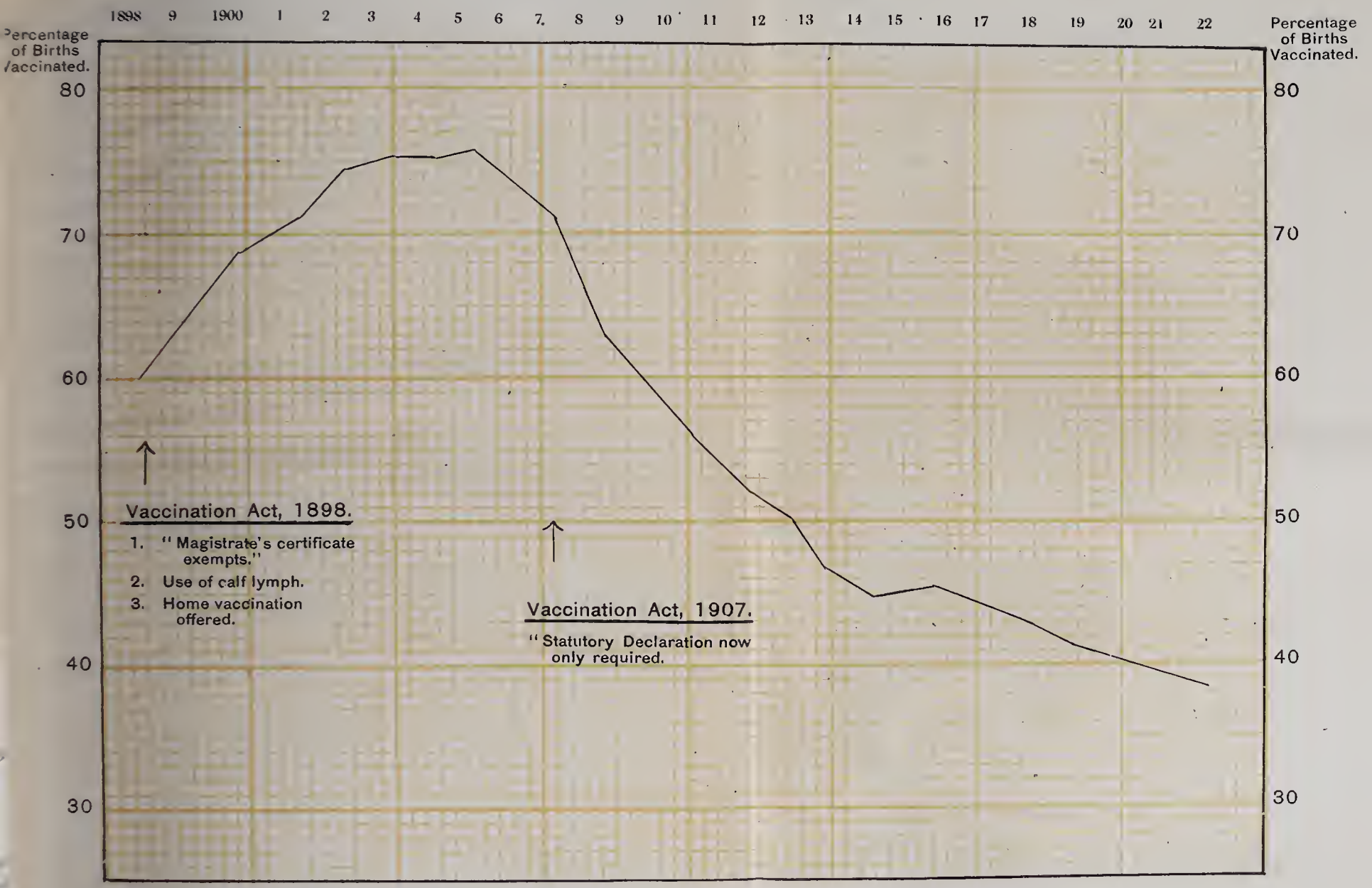
No case occurred in Liverpool during 1923. No indigenous cases have occurred during the course of the past five years.

ENTERIC FEVER.

The decline in the prevalence of this disease which has been continuous for the past 30 years has now almost led to its extinction. The death-rate has fallen since 1894 from 46 to 0·7 per 100,000; of the six deaths which occurred in the year, two were those of seamen infected abroad, and one was an inward transfer of the death of a Liverpool resident, a hospital nurse, which occurred in London; only three of the six deaths were of persons infected in Liverpool, or a mortality of 0·3 per 100,000.

ENGLAND AND WALES (INCLUDING LONDON).

Chart showing the rise in per centage of Births Vaccinated following the Act of 1898, and the subsequent marked fall after the passing of the Act of 1907.





One of the deaths which took place in Liverpool was that of a hospital nurse.

Only 20 cases of Enteric Fever (including three cases of Paratyphoid B.) were reported during 1923 in the City and Port of Liverpool, this being the lowest figure as yet recorded. Of these 5 cases were imported from overseas, leaving 15 cases of indigenous origin, as against 27 in the preceding year. In the case of two of these indigenous cases the development of illness followed the consumption of shellfish, mussels and oysters respectively; the latter case was due to infection with the B Paratyphosus B.

Two nurses who had been nursing cases which eventually proved to be Enteric Fever were infected in this way. One woman who had nursed her son, before his removal to hospital, was infected from him. All the remaining cases were isolated and sporadic in nature.

The results of inquiry into the probable causation of the reported cases is shown in the following table, the figures for the years 1919 to 1921 being shown for the purpose of comparison :—

CITY AND PORT OF LIVERPOOL. ENTERIC FEVER, 1919-23.

	CASES.					PERCENTAGE.				
	1919.	1920.	1921.	1922.	1923.	1919.	1920.	1921.	1922.	1923.
ıported by sea ...	27	21	16	12	5	42·2	36·3	37·2	30 0	25·0
ıported by land ...	6	3	1	1	—	9·5	5·2	2·3	2·5	—
ıell-fish	2	4	3	3	2	3·1	6·9	7·0	7·5	10·0
irect infection ...	5	2	4	10	1	7·8	3·5	9·3	25·0	5·0
irect infection from missed cases ...	1	6	1	2	2	1·6	10·4	2·3	5·0	10·0
ıronic carrier ...	—	1	—	—	—	—	1·5	—	—	—
robably not Typhoid	2	—	2	3	1	3·1	—	4·7	7·5	5·0
otal in which source was ascertained ...	43	37	27	31	11	67·2	63·8	62·8	77·5	55·0
entral area	12	4	11	5	3	18·8	6·9	25·6	12·5	15·0
uter area	9	17	5	4	6	14·0	29·3	11·7	10·0	30 0
otal in which sources were **not** ascertained	21	21	16	9	9	32·8	36·2	37·3	22·5	45·0
otal for City and Port	64	58	43	40	20					

ENTERIC FEVER (PARATYPHOID B.)

During April and May, 1924.

Experience of 1921–1923.

During the past three years only eight cases of this disease, a form of enteric fever, which is caused by an organism closely allied to the typhoid bacillus, have come under the notice of the Medical Officer of Health, viz. :—2 in 1921, 3 in 1922, and 3 in 1923. All were in persons aged 15 and over, seven being adults. The source of infection in three cases was suspected to be shellfish (Oysters 2, Mussels 1). One case was imported into the City from a ship, and one was a hospital nurse, leaving three cases of which the source of infection could not be ascertained.

Experience of April and May, 1924.

During the first three months of 1924 no cases of Enteric Fever (Paratyphoid B.) infection were reported in Liverpool. During April and May, 16 Liverpool cases were notified; information was also received of the occurrence of four other cases in the near vicinity of Liverpool, two in Lancashire and two in Cheshire. The Liverpool cases were widely distributed throughout the City, although three cases occurred almost simultaneously in one house, and two cases occurred at an interval of 12 days in another house, the second case being, in all probability, infected by the first; three cases occurred in Wavertree, but no connection could be traced between them; a fourth case from Woolton appeared to be possibly associated with one of these cases; a nurse at a General Hospital was one of the cases, but she had not been engaged in nursing any known case of this disease. One case only (a woman of 19 years) had eaten shellfish, namely, cockles, which had been purchased in Birkenhead, otherwise, only one other Liverpool patient had been away from home during the three weeks preceding the onset of the disease. One of the cases from Cheshire was employed in a Liverpool office, and the other visited Bootle every week. There was no increase in the number of cases of Enteric Fever due to the Bacillus Typhosus.

Dates of Onset.

The date of onset of each case was ascertained, and they fell within a period of seven weeks, viz. :—

Week ending.	Liverpool cases.	Outside cases.
April 12	—	1
19	1	—
26	5	—
May 3	3	2
10	4	—
17	1	—
24	2	—
Not known	—	1

This distribution of the cases indicates that there was some agency operating in distributing the infection, which had not been operative during the preceding years, and that it had been in operation more or less continuously over a period of at least four weeks during the months of April and May. The period was from early in April until at least the end of the first week in May.

Sex and Age of cases.

In contrast with the experience of the past three years, when there were no cases under 15 years of age, 12 of the Liverpool cases were under that age and only 4 were over 15 years of age.

	0–4	5–9	10–14	15–19	20–25	26–29	Over 30
1921/23	—	—	—	1	3	1	3
April/May, 1924 ...	4	6	2	1	2	1	—

During 1921-23, 3 cases were males and 4 cases females. During April and May, 1924, 4 cases were males and 12 cases females.

The alteration in age and sex distribution again indicates that the agent of infection is one that was not in operation during earlier years.

Enquiry into sources of Infection.

Excluding cases in which there was direct contact with other cases, there were 13 separate foci of infection in the City, widely scattered and with infection occurring over a period of at least four weeks. This alone renders it extremely improbable that either milk, cream or ice-cream was the medium of infection, and enquiry showed that only two persons of those affected had eaten ice-cream, and that the sources of milk supply, as also of cream, if separately purchased, were different for each household attacked, and had no common origin. Watercress had been eaten in three instances, but the supply was different in each case. Fried fish or shrimps had not been eaten in any instance. Shell-fish, milk, cream, ice-cream, watercress, or fried fish could therefore be excluded as the medium of infection.

The agent responsible for the spread of infection to 13 Liverpool households, and possibly four non-residents, must be one that is widely used but not heavily infected, and one, probably, more partaken of by children than adults. Information has also been received that the disease has been recently prevalent in Bolton, Wigan and elsewhere.

DIPHTHERIA.

During 1923, 993 cases of Diphtheria were reported, giving an attack rate of 1·2 per 1,000 of the population. Of these cases 87 proved fatal, equal to a fatality rate of 8·8 per 100 cases, and a mortality rate of 10·5 per 100,000 population.

Table 1.

DIPHTHERIA IN THE CITY OF LIVERPOOL, 1914-1923.

	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
Cases	1,377	1,247	1,114	1,022	1,302	1,959	1,654	1,182	953	993
Deaths	110	136	137	143	228	212	188	97	91	87
Case rate per 1,000 population ...	1·8	1·6	1·4	1·3	1·6	2·5	2·1	1·4	1·2	1·2
Death rate per 100,000 population	14·3	17·6	17·6	18·3	29·2	27·1	24·0	11·8	11·1	10·5
Fatality rate per 100 cases	7·8	11·0	12·2	13·9	17·5	10·8	11·4	8·2	9·5	8·8

Since 1920 observations have been made to determine with greater exactitude facts of the distribution of these diseases in the different parts of the City; for this purpose the City was divided into three zones :—(I.) Central, comprising Scotland, Exchange and Abercromby; (II.) middle, comprising Everton, Kirkdale, West Derby West, Toxteth and Walton, and (III.) outer, comprising the suburban areas of West Derby East, Wavertree, Sefton Park, Garston, Fazakerley and Woolton, Childwall and Allerton. Examination of Table II. shows the following points :—

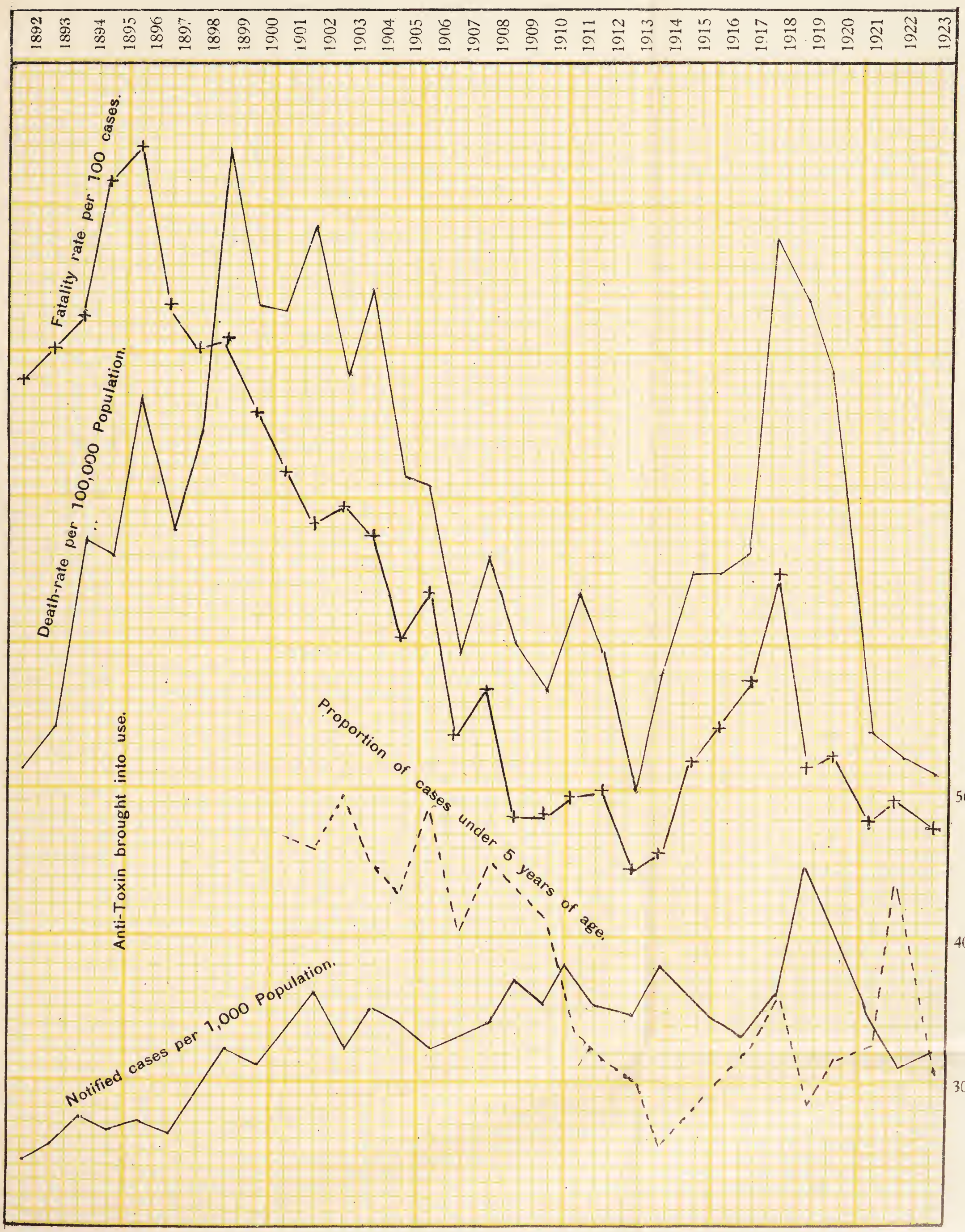
(1) The outbreak of diphtheria, which culminated in 1919, spread, and also lingered, later in the suburban outer area than in the central districts; both the case rates and the death-rates have steadily fallen since then throughout the whole City, except that in the central districts a slight rise in both rates is recorded for 1923.

(2) Both the case-rate and the death-rate were highest in the outer zone of districts during 1920; the death-rate has, on the whole, been highest in the central districts during the past three years, 1921-23.

(3) The order of the death-rates, arranged in descending magnitude, was in 1920, outer, middle and central districts; in 1923, this order was exactly reversed, the central districts suffering most.

Diphtheria (& Membranous Croup) in CITY OF LIVERPOOL during 1892—1923.

Death rate per 100,000 Population, Notified cases per 1,000 Population, Fatality rate per 100 cases notified and proportion of cases under 5 years of age to total cases.



M.61799 Est.



(4) The fatality rates (that is deaths per 100 cases) are persistently higher in the central than in the middle, with the exception of the year 1923, and in the middle than in the outer districts.

(5) This higher rate of fatality coincides with the age distribution of the cases in the three zones. The proportion of children under two years and under five years (the ages when the disease is especially fatal) is also persistently higher in the central than in the middle, and in the middle than in the outer zone. This is sufficient to account for the variations in fatality.

(6) The proportion of secondary to primary cases—that is the proportion of second and further cases in a house to first cases—is on the average highest in the outer and lowest in the central districts, the average percentage figures being 5·1, 6·6 and 8·0 in central, middle and outer districts respectively. These differences, if significant, possibly depend upon the population of the more central districts having been more thoroughly immunised by attack than that of the more suburban districts during the severe outbreak of 1914-1920.

(7) The infection in diphtheria spread from the more crowded parts of the City towards the periphery; it affected the central districts most severely because of the greater proportion of young children affected in those districts. This proportion depends in part upon the higher birth-rate in that zone, but probably also depends to some extent upon housing conditions there.

Comparison of these results with similar investigation with regard to scarlet fever shows that there is a close correspondence in the behaviour of the two diseases. Both diseases showed a considerable increase in mortality in the years 1917-19, affecting, principally, the central and middle zones; details of the deaths were shown in the Annual Report for 1920; both diseases have since then prevailed, especially in the outer districts. In both diseases the fatality per 100 cases is greatest in the central zone, and this is closely related with the higher proportion of young children of specially susceptible ages (under five years) affected in that zone; this influence is especially marked in the case of diphtheria. The tendency to an apparent greater prevalence in the outer zone during an inter-epidemic period in both diseases may to some extent be accounted for by a possibly better registration of cases in the outer zone, especially in the case of diphtheria.

Table 2.

CITY OF LIVERPOOL.—DIPHTHERIA.

	Case Rates per 1000 population.				Death Rates per 100000 population.				Fatality Rates.			
	1920	1921	1922	1923	1920	1921	1922	1923	1920	1921	1922	1923
Central Districts (1–3)...	1·1	1·0	0·9	1·16	16·4	**14·1**	11·0	**11·6**	**14·2**	**14·1**	**11·5**	10·6
Middle Districts (4–8) ...	2·1	1·2	1·1	0·99	24 6	11·3	11·1	10·7	11·7	8·4	10·4	**12 9**
Outer Districts (9–14) ...	**2·8**	**1·8**	**1·3**	**1·29**	**32·2**	11·8	**11·3**	9·9	11·5	6·5	8·6	7·6
Whole City ...	2·1	1·5	1·1	1 11	24·0	11·9	11·6	10·4	11·8	8·2	9·9	9·5

	Percentage Proportion of Secondary to Primary Cases.				Percentage Proportion of Children 0–2 years old to Total cases.				Percentage Proportion of Children 0–5 years old to Total cases.			
	1920	1921	1922	1923	1920	1921	1922	1923	1920	1921	1922	1923
Central Districts (1–3)...	5·9	3·2	6·2	5·3	**13**	**25**	**9·2**	**15·1**	**36**	**53**	**32**	**43·0**
Middle Districts (4–8)...	**9·2**	**6·5**	5·8	4·0	9	12	5·5	9·9	34	37	19	**36·3**
Outer Distrtcts (9–14)...	8·3	5·7	**7·4**	**10·5**	4	5	5·0	4·4	26	18	25	23·0
Whole City ...	8·1	5·9	6·0	7·5	8	10·7	5·7	9·3	31	32	32	30·2

Table No. 3.

DIPHTHERIA, YEAR 1923.

District.	Population, 1923.	Cases. *	Deaths.	Attack Rate per 1,000.	Death Rate per 100,000.	Case Fatality Rate %.	Percentage Proportion of Secondary to Primary Cases.	Percentage Proportion of Children 0-2 years to Total Cases.	Percentage Proportion of Children 0-5 years to Total Cases.
1. Scotland	46,639	30	3	0·6	6·4	10	...	23	58
2. Exchange	36,010	40	7	1·1	19·5	17	8·1	15	46
3. Abercromby	46,750	71	5	1·5	10·7	7	6·0	12	35
4. Everton	128,752	94	13	0·7	10·9	14	3·3	5	32
5. Kirkdale	72,151	43	3	0·6	4·2	7	...	11	30
6. West Derby West	94,613	104	12	1·1	12·8	12	2·0	18	50
7. Toxteth	112,014	151	17	1·3	15·2	11	3·4	9	38
8. Walton.....	86,065	96	8	1·1	9·3	8	8·0	4	26
9. West Derby East	79,930	111	10	1·4	12·5	9	5·9	3	23
10. Wavertree	46,036	69	6	1·5	13·0	9	17·1	4	20
11. Toxteth E. (Sefton P.)	35,261	26	2	0·8	6·2	8	13·6	3	26
12. Garston	29,692	30	1	1·0	3·3	3	16·0	3	23
13. Fazakerley	6,256	7	...	1·1	...	...	...	33	33
14. Woolton	9,712	5	...	0·5	...	...	...	25	50
Institutions, &c.	...	48	...	...	...	...	41·2	...	...
Central Districts (1 to 3) ...	129,399	141	15	1·16	11·6	10·6	5·3	15·1	43·0
Middle Districts (4 to 8) ...	493,595	488	53	0·99	10·7	12·9	4·0	9·9	36·3
Outer Districts (9 to 14) ...	206,887	248	19	1·29	9·9	7·6	10·5	4·4	23·0
Whole City	829,881	925	87	1·11	10·4	9·5	7·5	9·3	30·2

* Cases are those with onsets in 1922.

Table No. 4.

DEATHS FROM DIPHTHERIA.

DISTRICTS.	Quarters.								Year 1923		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	1	...	1	...	...	...	...	1	2	1	3
Exchange	1	...	1	1	1	...	1	2	4	3	7
Abercromby	...	1	1	1	1	1	...	...	2	3	5
Everton	3	2	5	1	1	1	...	...	9	4	13
Kirkdale	...	...	1	1	...	...	...	1	1	2	3
West Derby (West)	2	2	1	1	3	...	2	1	8	4	12
Toxteth	6	7	2	1	1	...	...	...	9	8	17
Walton	3	1	1	1	...	2	...	...	4	4	8
West Derby (East)	2	4	...	...	1	...	1	2	4	6	10
Wavertree	3	2	...	...	...	1	...	...	3	3	6
Toxteth (East)	...	1	...	...	...	...	...	1	...	2	2
Garston	...	...	...	...	...	...	1	...	1	...	1
Fazakerley	...	...	...	...	...	...	...	...	...	...	...
Woolton	...	...	...	...	...	...	...	...	...	...	...
City	21	20	13	7	8	5	5	8	47	40	87

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30	40—	50—	60—	All Ages.
9	17	17	18	5	16	2	...	...	...	2	...	1	87

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

SCARLET FEVER.

Scarlet Fever has shown a steady decline in mortality during the past 40 to 50 years. Whilst the number of cases has shown a distinct reduction, the fatality (or proportion of deaths to cases) has shown a very marked reduction and in 1922 was only 1·86 per cent., as against 19·2 in the year 1889. This decline in the severity of Scarlet Fever is well shown in the attached diagram.

The following table shows the incidence and mortality from Scarlet Fever during the past 10 years. It will be seen that the years showing an increased incidence also show an increased fatality. In 1918 there was a considerable increase in the number of deaths occurring, especially in Everton, Kirkdale and West Derby West, Toxteth having been especially affected in 1917.

Table I.

SCARLET FEVER IN THE CITY OF LIVERPOOL, 1914-1923.

	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
Cases ...	3,712	2,984	2,148	2,277	3,020	2,735	3,230	3,062	2,419	2,307
Deaths ...	122	68	59	69	125	74	70	45	39	43
Case-rate per 1,000 inhabitants	4·9	3·9	2·7	2·9	3·8	3·1	4·1	3·7	2·9	2·8
Death-rate per 100,000 inhabitants	15·9	8·8	7·6	8·8	16·0	9·3	8·9	5·5	4·7	5·2
Fatality rate per 100 cases ...	3·3	2·3	2·8	3·0	4·1	2·6	2·2	1·5	1·6	1·8

During 1923 2,307 cases and 43 deaths were recorded, giving an attack-rate of 2·8 per 1,000 and a mortality rate of 5·2 per 100,000 of the population.

In the second table the case rates, mortality rates, fatality rates per 100 cases, the proportion of secondary cases to primary cases—that is of second and further cases to first cases in a house—and the proportion of children under two years and under five years respectively to the total cases at all ages, are shown for the three aggregated zones and for the whole City during the past four years. It will be seen from this table :

(*a*) That the incidence of scarlet fever in Liverpool has been steadily diminishing throughout the City, and in each of the aggregated zones, during the last four years, except that slight increases are shown in the central and outer zones during 1923. The middle zone of the City has shown the highest incidence of cases during the greater part of the period under review, but during 1923 the outer zone suffered most. Wavertree and West Derby East being especially affected with a mild type of the disease.

(*b*) Variations in the death rates follow closely the variations in the case incidence.

(*c*) The fatality of the disease is almost uniformly higher in the central than in the middle zone, and in the middle than the outer zone. Reference to Table 3 will show that the fatality rate is much higher in children under than over five years of age. The proportion of younger to older children is uniformly higher in the central than the middle and in the middle than the outer zone, corresponding closely with the difference in the fatality rates. Any influence which defers the average age at attack will have a well-marked effect in diminishing the number of deaths from this disease.

(*d*) In 1920 the proportion of secondary to primary cases was highest in the central zone, but in the last three years this proportion has been highest in the outer zone.

In the third table these cases and deaths are distributed into the several wards, which have also been aggregated into three zones. a central, a middle and an outer, comprising districts 1 to 3, 4 to 8, and 9 to 14, respectively.

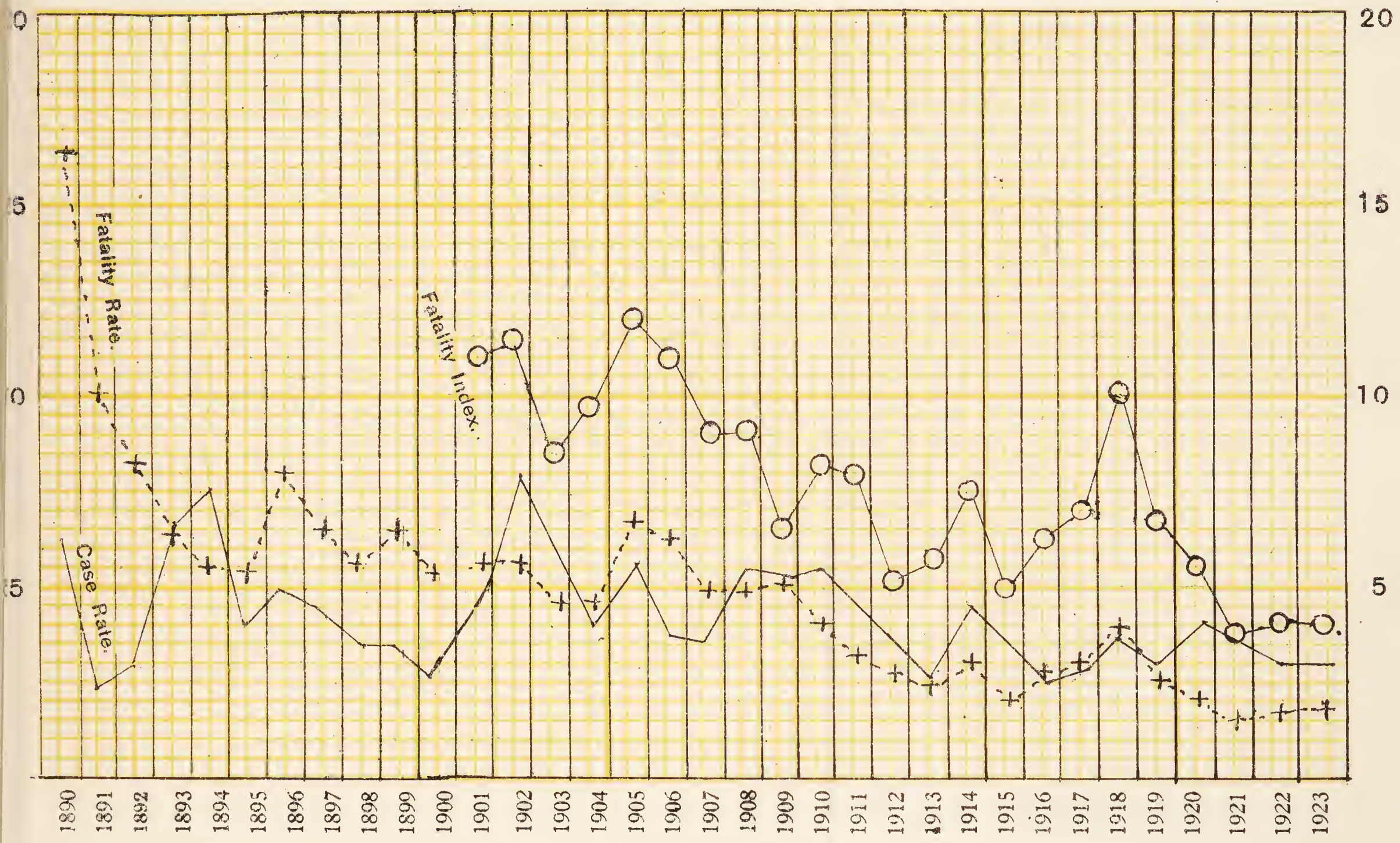
Table 4 shows the deaths distributed according to age, sex and the quarter of the year. The last section shows the ages of notified cases and the fatality rate at the several age periods; from this it will be observed that while during the second and third years of life 4·2 and 6·8 per cent. of cases, respectively, proved fatal, the fatality steadily declined with increasing age; only four deaths occurred in persons over 10, and one at over 50 years of age.

No considerable outbreak occurred in any elementary school, and school closure was not necessitated in any case. Where a few cases have occurred in a school, visits have been paid and the "missed cases" of this disease have been searched for and occasionally found.

CITY OF LIVERPOOL.

Scarlet Fever 1890-1923. Case Rate per 1000 Population, Fatality Rate per 100 Cases & Fatality Index (corrected for age at attack of cases)

M.61799 Est.



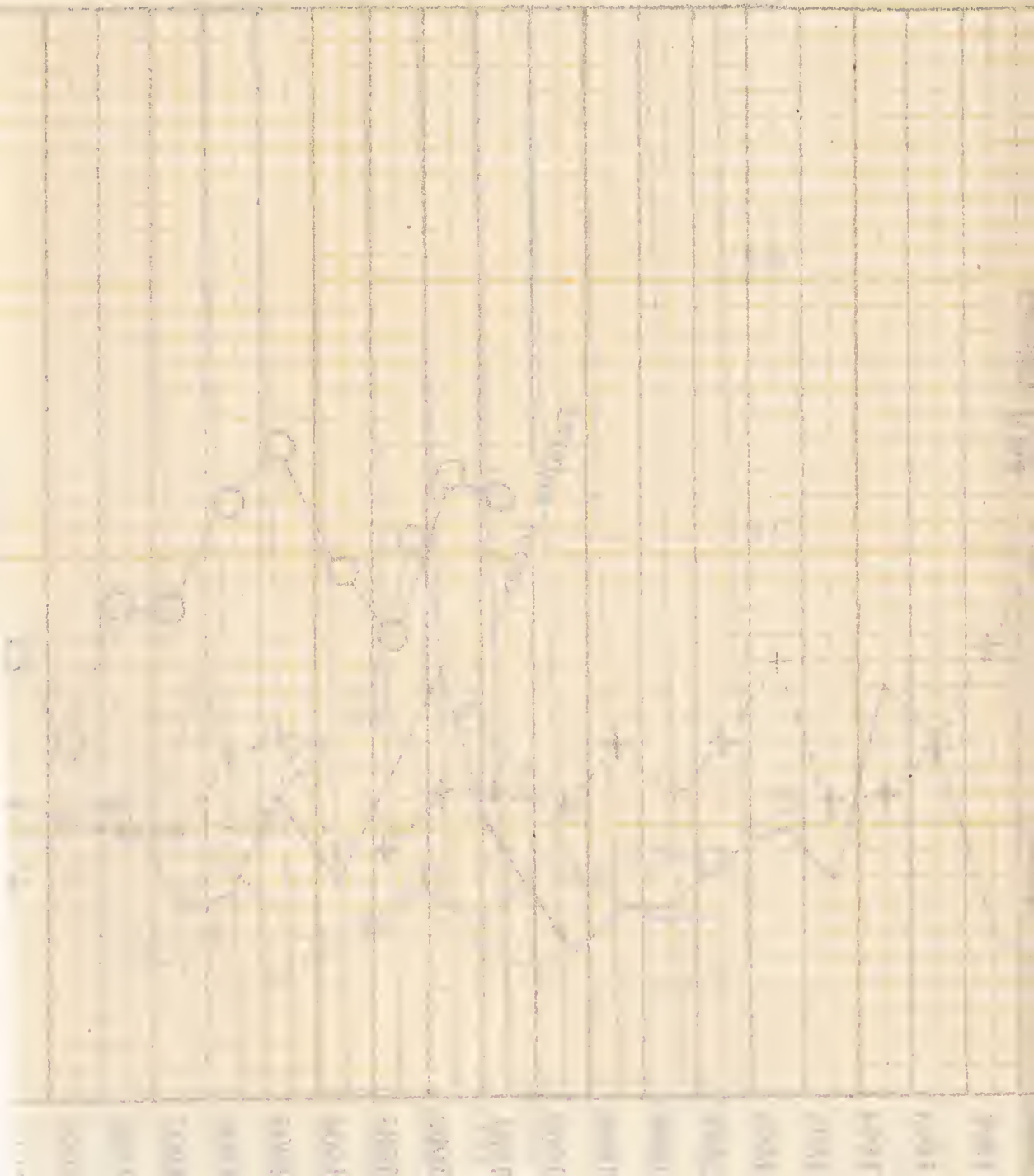


Table 2.

CITY OF LIVERPOOL.—SCARLET FEVER.

	Case Rates per 1000 population.				Death Rates per 100000 population.				Fatality Rates per 100 cases.			
	1920	1921	1922	1923	1920	1921	1922	1923	1920	1921	1922	1923
Central Districts (1–3)...	3·0	1·8	1·5	1 65	9·3	3·1	3·1	3·1	**3·1**	1·6	**2·1**	1·9
Middle Districts (4–8)...	**4·7**	3·8	**3·1**	2-75	9·4	**6·2**	**6·0**	5 5	2·1	1·6	1·9	**2·0**
Outer Districts (9–14)...	4·1	**3·9**	2·9	**3·28**	**9·8**	5·7	3·4	**6·0**	1·9	1·6	1·7	1·7
Whole City ...	**4·0**	3·5	2·9	2·82	8·9	5·5	4·7	**5·2**	2·1	1·5	1·8	1 86

	Percentage Proportion of Secondary to Primary Cases.				Percentage Proportion of Children 0–2 years old to Total Cases.				Percentage Proportion of Children 0–5 years old to Total Cases.			
	1920	1921	1922	1923	1920	1921	1922	1923	1920	1921	1922	1923
Central Districts (1–3)...	**22·0**	7·2	11·5	9·9	**8·1**	**10 3**	**9·2**	**5·4**	**33·0**	**32·4**	**31·5**	**49·5**
Middle Districts (4–8)...	15·1	15·4	11·6	10·8	4·1	5·5	5·5	5·0	24·9	22·9	28·2	28·9
Outer Districts (9–14)...	14·1	**19·0**	**25·2**	**13·5**	4·1	2·5	5·0	2·0	20·9	22·8	23·9	14·7
Whole City ...	15·6	17·9	15·0	13·3	4·6	5·1	5·7	4·1	24·6	23·9	27·1	26·2

Table No. 3.

SCARLET FEVER, 1923.

District.	Population, 1923.	Cases. *	Deaths.	Attack Rate per 1,000.	Death Rate per 100,000.	Case Fatality Rate %.	Percentage.		
							Proportion of Secondary to Primary Cases.	Proportion of Children 0-2 years to Total Cases.	Proportion of Children 0-5 years to Total Cases.
1. Scotland	46,639	49	1	1·05	2·1	2·0	4·4	9	52
2. Exchange	36,010	101	3	2·8	8·3	3·0	10·0	6	31
3. Abercromby	46,750	64	...	1·4	...	...	14·3	3	64
4. Everton	128,752	296	10	2·3	7·7	3·4	8·6	5	26
5. Kirkdale	72,151	122	2	1·7	2·8	1·6	7·3	7	42
6. West Derby West	94,613	300	6	3·2	6·4	2·0	11·6	5	28
7. Toxteth	112,014	383	6	3·4	5·4	1·5	13·1	6	36
8. Walton.....	86,065	248	3	2·9	3·5	1·2	10·6	3	23
9. West Derby East	79,930	324	6	4·1	7·5	1·8	15·1	3	18
10. Wavertree	46,036	187	3	4·05	6·5	1·6	13·2	2	12
11. Toxteth E. (Sefton Park)	35,261	87	...	2·5	...	...	13·5	...	11
12. Garston	29,692	64	3	2·2	10·1	4·7	8·8	6	19
13. Fazakerley	6,256	4	...	0·7	...	...	...	...	...
14. Woolton	9,712	13	...	1·3	...	...	9·1	...	7
Institutions, &c.....	...	94	...	...	...	...	86·0	...	...
Central Districts (1 to 3) ...	129,399	214	4	1·66	3·1	1·9	9·9	5·4	49·5
Middle Districts (4 to 8).....	493,595	1,349	27	2·75	5·5	2·0	10·8	5·0	28·9
Outer Districts (9 to 14) ...	206,887	679	12	3·28	6·0	1·7	13·5	2·2	14·7
Whole City	829,881	2,336	43	2·82	5·2	1·8	13·3	4·1	26·2

* Cases are those with onsets in 1923.

Table No. 4.

DEATHS FROM SCARLET FEVER.

DISTRICTS.	Quarters. March. M.	F.	June. M.	F.	Sept. M.	F.	Dec. M.	F.	Year. 1923. M.	F.	Total.
Scotland	...	...	1	...	...	...	...	...	1	...	1
Exchange	...	...	...	...	1	1	1	...	2	1	3
Abercromby	...	...	...	...	...	...	...	...	...	...	...
Everton	1	...	...	2	1	1	2	3	4	6	10
Kirkdale	...	...	...	...	...	1	1	...	1	1	2
West Derby West	...	...	2	...	...	2	2	...	4	2	6
Toxteth	...	...	1	2	...	...	2	1	3	3	6
Walton	1	...	...	1	...	...	1	...	2	1	3
West Derby East	1	...	1	3	...	...	1	...	3	3	6
Wavertree	1	1	...	...	...	...	...	1	1	2	3
Toxteth East	...	...	...	...	...	...	...	...	...	...	...
Garston	...	...	1	1	...	...	1	...	2	1	3
Fazakerley	...	...	...	...	...	...	...	...	...	...	...
Woolton	...	...	...	...	...	...	...	...	...	...	...
City	4	1	6	9	2	5	11	5	23	20	43

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 and upwards.	All Ages.
...	3	9	7	9	10	2	1	1	...	...	1	...	43

Ages of Notified Cases.

31	72	146	196	207	933	440	154	89	26	11	2	...	2307
652 = 28·3%						40·4%	19·0%			12·2%			

Percentage Fatality at each age.

0·0	4·2	6·8	3·6	4·4	1·1	0·4	0·6	1·1	...	...	50·0	...	1·8

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

Return Cases.—Cases occurring within the outside margin of one month of the discharge of a case from hospital to the same house were regarded as "return cases." Of the 1,961 cases discharged from hospital after suffering from Scarlet Fever, 42, or 2·1 per cent., were associated with recurrent infection in this way. In only four houses did more than one "return case" arise. The proportion of "return cases" to cases discharged from hospital, which was 1·8 in 1920, and 2·7 in 1921, and 3·3 in 1922, was 2·6 in 1923.

Table 5.

SCARLET FEVER, RETURN CASES.

	1923.		Average of past 4 years.	
	No. of cases associated with return cases.	Expressed as a percentage of cases discharged from hospital.	No. of cases associated with return cases.	Expressed as a percentage of cases discharged from hospital.
January	1	0·5	5·8	2·0
February	3	1·8	7.7	3·0
March	2	1·6	3·7	2·0
April	1	0·6	4·2	2·2
May	7	4·1	6·5	3·2
June	2	1·1	3·2	1·9
July	3	1·7	3·0	1·4
August	4	2·8	2·7	1·5
September	...	...	1·0	0·5
October	3	1·8	1·5	0·7
November	7	2·9	5·0	1·8
December	9	4·8	10·2	2·9
Whole Year ...	42	2·1	55·7	2·2

MEASLES.

The numbers of deaths from Measles has shown a tendency to decline of recent years. During 1923, there were 356 deaths, as against 319

deaths which was the average of the past ten years. The mortality rate was 43 per 100,000.

Measles became a notifiable disease in 1915 by Order of the Local Government Board; the disease is no longer generally notifiable, but in Liverpool is notifiable on a voluntary basis. During the year, 11,089 cases came under the notice of the Medical Officer of Health, the sources of information being as follows:—

(*a*) Notified by Medical Practitioners, 6,858.

(*b*) Information from Schools, etc., 4,168.

(*c*) Discovered by Health Visitors, 63.

The proportion of deaths to cases, or fatality rate, was 3·2, which is rather lower than the average of the past eight years, namely, 3·6 per cent. The mortality in measles depends mainly upon the age at which infection occurs; as shown in Table 4, the great majority of the deaths occur in children under three years of age. Any increase in the proportion of cases among children under this age will be attended by a corresponding rise in fatality.

The experience of the past ten years is shown in the following table:

Table 1.

	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
Cases	...	3,049	14,732	9,230	9,268	3,983	11,448	9,143	3,570	11089
Deaths	517	256	264	436	407	103	387	328	171	356
Case rate per 1,000 inhabitants ...	...	...	19·0	11·8	11·8	5·1	14·6	11·2	4·3	13·4
Death rate per 100,000 inhabitants ..	69	33	34	56	52	13	49	40	21	43
Fatality rate per 100 cases.....	...	...	1·1	4·7	4·3	2·6	3·4	3·6	4·8	3·2

The experience of many years has shown that Measles tends to occur in waves which follow each other at intervals of about 92 weeks. The diagram facing shows, week by week, the numbers of cases reported during the past nine years. Similar diagrams were published in the Annual reports of the Medical Officer for 1911 and 1921, and gave the deaths for the preceding decades. It will be seen that the periodic recurrences are very regular over considerable periods, but that when the epidemic is due to reach its height in one of the three Autumn months, August, September or October, it fails to do so, two maxima occurring instead, one before and the other after the expected date. This is well shown in the accompanying diagram (No. 15); there were two maxima in 1923, one 77 weeks and the other 102 weeks after the preceding maximum, that of December 17th, 1921, which in turn occurred 92 weeks after the corresponding point in 1920.

During 1923 there was a continuous increase in the number of cases of measles up till the week ending June 23rd, when 587 cases and 18 deaths were reported. In the commencement of the second quarter of the year, measles began to be much more prevalent in schools, and during that quarter 20 Infants' Departments were closed for that reason, as against 5 in the preceding quarter. In the third quarter of the year the disease again became extensively prevalent, and increased up till the week ending December 15th, when 339 cases and 11 deaths were recorded. The outbreak continued into the Spring of 1924, but showed a steady decline.

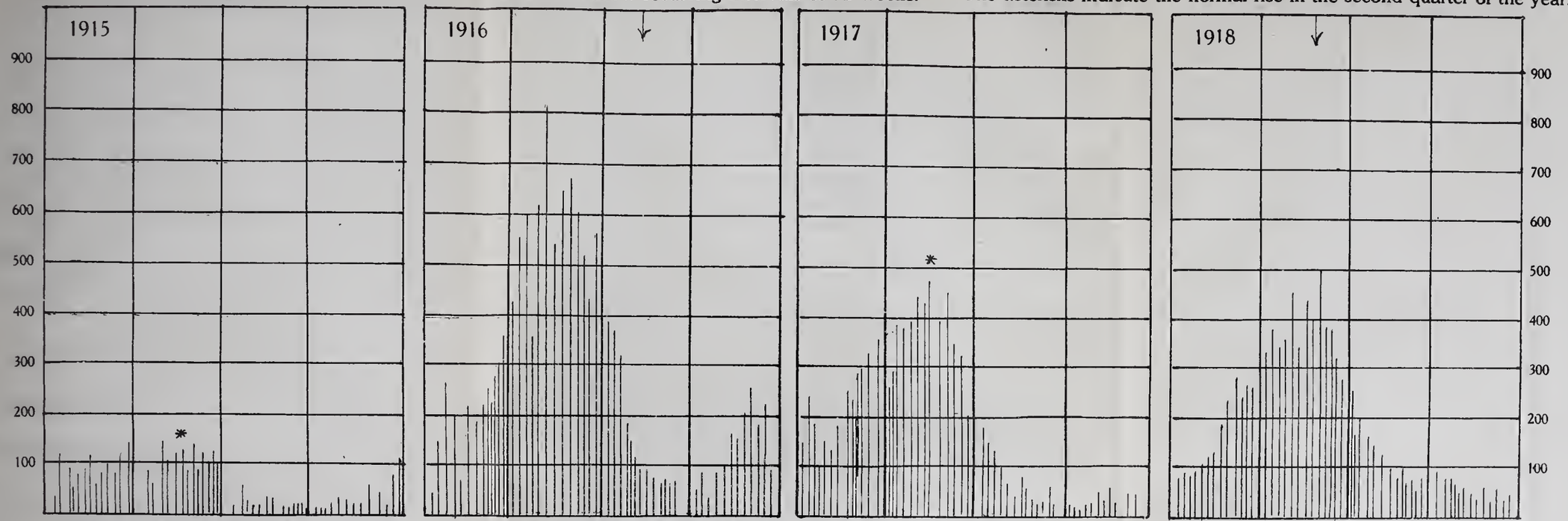
The second table shows the deaths from Measles in the several districts of the City during the past five years.

Apart from the school closure, referred to above, other measures to limit the ravages of the disease include efforts to secure the isolation of the patients; in view of the heavy mortality among children under three years of age (see Table 4), parents are strongly urged to keep those of tender age apart from those already affected. Children coming from a house in which a case of measles has occurred are excluded from school for 16 days; children over 7 years of age who have already had measles are exempted.

The Order of the Ministry of Health authorises local authorities to provide medical assistance for the poorer inhabitants of their district, including nursing, and the Health Committee appointed four permanent nurses in 1916 to deal with such cases as were contemplated by the Order. This number has been increased in times of outbreak. In consequence of the visits of these nurses, many children have benefited

CITY OF LIVERPOOL.

Cases of Measles during the years 1915 to 1923. The arrows show recurring intervals of 92 weeks. The asterisks indicate the normal rise in the second quarter of the year.





from the assistance and advice given, in some instances children have been removed for hospital treatment who would otherwise have been left at home without adequate care and attention. The visits, etc., made by these nurses in the course of 1923 were as follows :—

New cases visited during year 1923			...	7,659
Cases nursed	,,	,,	...	1,201
Re-visits to cases	,,	,,	...	9,294

As 98 per cent. of deaths from Measles are due to complications, mainly Pneumonia, there can be little doubt that the work of these nurses resulted in much saving of life.

Table 2.

Deaths from Measles for the years 1919 to 1923 after distribution of the Institutional Deaths according to the place of residence :—

District.	Average of 5 years.	1919.	1920.	1921.	1922.	1923.
Scotland... ...	21	4	**41**	22	7	**31**
Exchange ...	27	13	**36**	26	16	**45**
Abercromby ...	17	8	14	**15**	12	**35**
Everton	63	34	77	**99**	38	**63**
Kirkdale... ...	24	6	**43**	31	14	26
West Derby West	26	15	**37**	25	22	**29**
Toxteth	42	3	51	**58**	40	**60**
Walton	14	9	**19**	15	6	**19**
West Derby East	13	4	**21**	18	9	13
Wavertree ...	11	6	**18**	7	2	**24**
Sefton Park ...	2	1	**4**	1	2	...
Garston	5	...	**22**	8	2	6
Fazakerley ...	1	...	**2**	...	1	...
Woolton... ...	1	...	2	**3**	...	...
Total ...	269	103	387	328	171	356

Table 3.

DEATHS FROM MEASLES.

DISTRICTS	Quarters.								Year 1923.		
	March		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	4	1	2	4	6	7	3	4	15	16	31
Exchange	...	1	10	9	9	10	1	5	20	25	45
Abercromby	8	6	6	7	3	1	3	1	20	15	35
Everton	2	4	15	11	15	10	2	9	34	34	68
Kirkdale	2	3	5	2	3	7	2	2	12	14	26
West Derby (West)	1	3	4	1	6	4	7	3	18	11	29
Toxteth	4	3	12	9	10	6	13	3	39	21	60
Walton	1	...	2	1	3	1	8	3	14	5	19
West Derby (East)	...	...	2	1	4	1	3	2	9	4	13
Wavertree	4	2	6	7	2	1	1	1	13	11	24
Toxteth East	...	...	...	...	...	...	...	...	...	...	...
Garston	..	...	...	...	...	...	3	3	3	3	6
Fazakerley	...	...	...	...	...	...	...	...	...	...	...
Woolton	...	...	...	...	...	...	...	...	...	...	...
City	26	23	64	52	61	48	46	35	197	159	356

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
99	172	55	18	2	10	...	...	...	...	...	...	...	356

Ages of Notified Cases.

487	1011	936	1072	755	3210	188	121	7780

Percentage Fatality at Each Age.

20·3	17·0	5·9	1·7	0·3	0·3	0·0	0·0	1·5

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

Table 4.

MEASLES DURING THE YEAR 1923.

Statement showing the total numbers of cases brought under the notice of the Medical Officer from schools, and those notified by Medical Practitioners:—

Age.	Cases occurring in Children of School Age from both sources	Cases notified by Medical Practitioners.	Number of Deaths.	Fatality Rate per 1,000 cases.
0—1	...	487	99	203·3
1—2	...	1,011	172	170·1
2—3	...	936	55	58·8
3—4	...	1,072	18	16·8
4—5	...	755	2	2·6
5—6	2,185	1,327		
6—7	1,742	1,087		
7—8	757	468	10	3·1
8—9	327	212		
9—10	153	116		
10—11	109	71		
11—12	82	58		
12—13	44	31	0	0·0
13—14	30	18		
14—15	139	10		
15—16	...	121	0	0·0
16 upwards	...			
	5,568	7,780	356	45·8

WHOOPING COUGH.

The number of cases coming to the notice of the Medical Officer during 1923 was 2,261, and the number of deaths 156, corresponding to a death-rate of 18·8 per 100,000 inhabitants, which is distinctly below the average of the past ten years. The average death-rates from Whooping Cough during the past 70 years is as follows :—

1850-59	103·6
1860-69	107·3
1870-79	86·8
1880-89	72·9
1890-99	56·3
1900-09	45·0
1910-19	32·6
1920	29·2
1921	25·6
1922	22·0
1923	18·8

This shows a very considerable decline in mortality. Whether this decline is due to lessened prevalence, to alterations in the age-incidence, or to lowered virulence cannot be ascertained from the figures. The following table shows for the previous ten years the numbers of cases coming to the notice of the Medical Officer, the numbers of deaths, the death-rate per 100,000 inhabitants, and the fatality rate per 100 cases :—

Years.	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Cases	2303	2020	1524	3056	4244	788	2804	3019	2025	2261
Deaths	248	259	235	132	364	53	228	210	182	156
Death Rate per 100,000 of the population ...	32	33	30	17	46	7	29	26	22	19
Fatality Rate (Percentage of deaths to cases)	10.3	12.8	15.3	4.3	8.6	6.7	8.1	8.1	9.0	7.9

As the disease is not compulsorily notifiable, caution is necessary in drawing conclusions from these figures. The probability is that information as to cases in the later years has been more complete than formerly. But it is clear, on the whole, that the reduction in the death-rate from this disease has coincided with a decline in the proportion of deaths to cases that has occurred during the past seven years.

CEREBRO-SPINAL FEVER.

Eight cases of Cerebro-Spinal Fever occurred during 1923, of which 6 (or 75 per cent.) proved fatal, making a death-rate of 1·1 per 100,000 of the population. The cases during the year 1915 to 1922 were 30, 37, 34, 17, 26, 27, 26 and 18, respectively. There is a marked reduction in incidence compared with earlier years.

The diagnosis was confirmed by the finding of the causal organism (the meningococcus) in the cerebro-spinal fluid after lumbar puncture in three cases.

In two cases admitted as Cerebro-Spinal Meningitis the organisms found were not those of Cerebro-Spinal Fever, but of Tubercular Meningitis, and in two other cases the disease was found to be Poliomyelitis and Enteritis, respectively.

ENCEPHALITIS LETHARGICA.

This disease is also known by the popular, but misleading, synonym of sleepy sickness, misleading because it is apt to lead to confusion with the totally different disease, African Sleeping Sickness. It was first systematically described by Von Economo in Vienna in 1917, and has since then spread pandemically through the world. As will be seen from the table below there was a marked increase in the incidence of this disease in Liverpool during 1923, an increase which affected Glasgow and Edinburgh, and also New York and other foreign Cities, but not the greater part of this country.

Table 1.

CITY OF LIVERPOOL.

ENCEPHALITIS LETHARGICA, 1918—1923.

	1918-19	1920	1921	1922	1923
Cases	3	17	27	5	111
Rate per 1,000 population ...	...	0·02	0·03	0·01	0·13
Deaths	...	2	6	3	36
Rate per 100,000 population	...	0·20	0·73	0·36	4·30
Fatality per 100 cases ...	...	12	22·5	40	32·4

It is probable that, as the disease was at first unfamiliar, the records are incomplete; the increasing proportion of mild cases which are now being reported points to the likelihood that the character of these less marked cases is being increasingly recognised.

Alteration in Type of Disease in 1923.

But alongside this increasing recognition of the milder cases there was apparent an alteration in the clinical characteristics and severity of the disease during 1923. This first became apparent in the Autumn of 1922. Previously, as indicated by its name, the most characteristic symptoms of the disease were lethargy, hebetude, somnolence, and, in severe and fatal cases, coma. Associated with this were various paralytic or paretic symptoms, affecting mainly the muscles of the eyes and face, and producing double-vision, blurring of vision, squints, nystagmus, inability completely to open the eyes, an immobile or mask-like expression, etc. A small proportion of cases had exhibited delirium or hyperactivity.

During 1923 these features of cerebral irritation became more prominent.

Sleeplessness was commonly observed at the onset of illness, even when this later progressed to lethargy or torpor. Severe neuralgic pains were also experienced at the onset in some cases, the neck, shoulders and arms being especially affected. Nearly half the cases showed excessive activity rather than torpor; great restlessness and involuntary movements were frequent (choreiform cases), and in others repeated jerky movements of certain muscles or groups of muscles (myoclonic cases) were experienced, severe lancinating pains accompanying the jerks in some cases; in yet a further group of cases delirium, often occupational in character, was the

predominant symptom (psycho-motor cases). The essential unity of the disease was, however, manifested by the occurrence of cases of intermediate character, or which developed from one type into another.

The division of cases according to predominant symptoms was in 1923 :

Lethargic and paralytic cases ...	62	55·9%
Choreiform cases	24	21·6%
Myoclonic cases	12	10·8%
Psycho-motor or meningitic cases ...	10	9·0%
Abortive cases	3	2·7%
	111	100·0%

This alteration in the character of the symptoms was accompanied by a definite increase of severity of illness, and also of the proportion of deaths to cases (fatality), which rose to 32·4% (see Table 1).

Incidence of Disease.

Prior to 1923 the disease appeared in groups of cases associated in time and locality, although no direct association of cases could be ascertained. During 1923 it was prevalent, not only throughout the City, but also in the neighbourhood. The areas in Liverpool principally affected were Wavertree, Everton, West Derby East and West, and Toxteth.

Table 2.

CITY OF LIVERPOOL, 1923.

District	Cases.	Rate per 100,000
Wavertree	9	19·7
Everton	22	17·2
West Derby East	13	16·4
Toxteth	17	15·2
West Derby West	14	14·9
Exchange	5	14·0
Walton	10	11·7
Abercromby	5	10·8
Woolton	1	10·4
Scotland	4	8·7
Sefton Park	3	8·6
Garston	2	6·6
Kirkdale	4	5·6
Imported cases	2	—
Whole City	111	13·4

The greatest number of cases were between 10 and 20 years of age. No difference in age incidence was observed between the hypermotile and lethargic cases, except at the first decade of life, when the lethargic cases were in excess.

Table 3.

CITY OF LIVERPOOL.—AGES OF CASES, 1923.

Cases.	0–9	10–19	20–29	30–39	40-49	50–59	60–69	Total
Lethargic	10	30	10	3	4	3	4	64
Hypermotile	3	22	9	4	4	3	2	47
Total Cases...	13	52	19	7	8	6	6	111
Deaths	1	9	8	3	5	5	5	36
Fatality per cent.	7·7	17·3	42·1	42·8	62·5	83.3	83·3	32·4

It is clear from the above table that more than half the cases occurred under 20 years of age, and that over 30 years of age the liability to contract the disease is small. On the other hand, the fatality increases rapidly with advancing age. The smaller fatality in childhood and adolescence is unfortunately offset by the liability to develop sequelae under 20 years of age (see below).

59 of the cases were males and 52 were females.

The dates of onset of the cases are shown in the annexed table :—

Table 4.

CITY OF LIVERPOOL—CASES BY MONTH OF ONSET.

Reported in	1922.						1923.											
	July	Aug	Sept	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Ap.	May	June	July	Aug	Sept	Oct.	Nov	D
1922 ...	—	1	—	1	1	—												
1923 ...	2	—	—	—	—	6	47	24	7	5	5	4	—	1	—	3	3	
1924 ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	1	1	3	
Total ...	2	1	—	1	1	6	47	24	8	6	5	4	—	1	1	4	6	

The diagram facing page 42 shows week by week the date of onset of all cases reported during 1920 to 1924. The disease is principally prevalent in the winter months, reaching a maximum in January, February or March, and a minimum in July, August or September.

Ages of Cases of Encephalitis Lethargica occurring in 1923, divided into Lethargic and Overactive cases.





Method of Spread.

Enquiry was made to ascertain if there were any history of contact with preceding cases. Two cases were imported into the City, leaving 109 indigenous cases; of these 10 cases, or 9 per cent., gave a history of contact with a preceding case :—

In same family	2	persons.
Contact with one of these families	2	,,
Near neighbours (known contact)	4	,,
Cousin	1	,,
Same class in school and neighbours ...	1	,,
	10	persons.

A group of seven cases that occurred in and in the vicinity of M—— Street is of interest, as contact between a number of cases could be established. A young man A. A. H——, 21 years, living in this street, was taken ill on November 21st, 1922, and died six days later; his sister, L. H——, aged 13 years, was taken ill at Christmas, but she was not removed to hospital until January 31st, the symptoms at first resembling those of Chorea (St. Vitus' Dance), from which she had previously suffered. A boy, aged 15 years, living four doors off, began to be ill on Boxing Day, and was removed to hospital on January 7th. Another girl, P. E——, aged 7 years, living in the next street, was taken ill about February 15th, and was subsequently discovered in school by the School Medical Officer on March 28th. The two last cases knew the H—— family. Another child, aged 13 years, and living in the immediate vicinity, began to be ill on February 2nd, but no contact could be traced. Finally, in November, 1923, a case occurred in M—— Street, in the person of a young woman living opposite to the H—— family. It also transpired that a chronic sufferer from this disease lived in M—— Street, the disease having commenced in March, 1922, but there was no evidence of contact with the other cases. This street appeared to form an endemic focus of encephalitis. Apart from the above four contacts of a case developed severe headache and a transient lethargy with, in one instance, marked blurring of vision, and were probably mild or "abortive" cases of this disease, but are not included in the total of notified cases. It is probable that such mild or "abortive"

cases are of not infrequent occurrence, a number having come to light during 1924, and, as in many other diseases, account for the spread of infection in a certain proportion of instances. During 1924 three or four cases have come to light in a single family in several instances. Carriers are also believed to occur. One patient, known to have been recently in intimate contact with an earlier case developed the disease five months after the onset of illness in the first case.

In only a small number of cases reported in 1923 was there any history of preceding attack of influenza. Reference to the diagram facing will show that in 1920 to 1921 the majority of cases of encephalitis occurred in the absence of any influenza epidemic; in 1922 there was a considerable outbreak of influenza, but very little encephalitis, whilst the large outbreak of encephalitis in 1923 occurred in a year that was free from epidemic influenza. Only in 1924 have epidemics of the two diseases occurred simultaneously.

Relapses and Sequels.

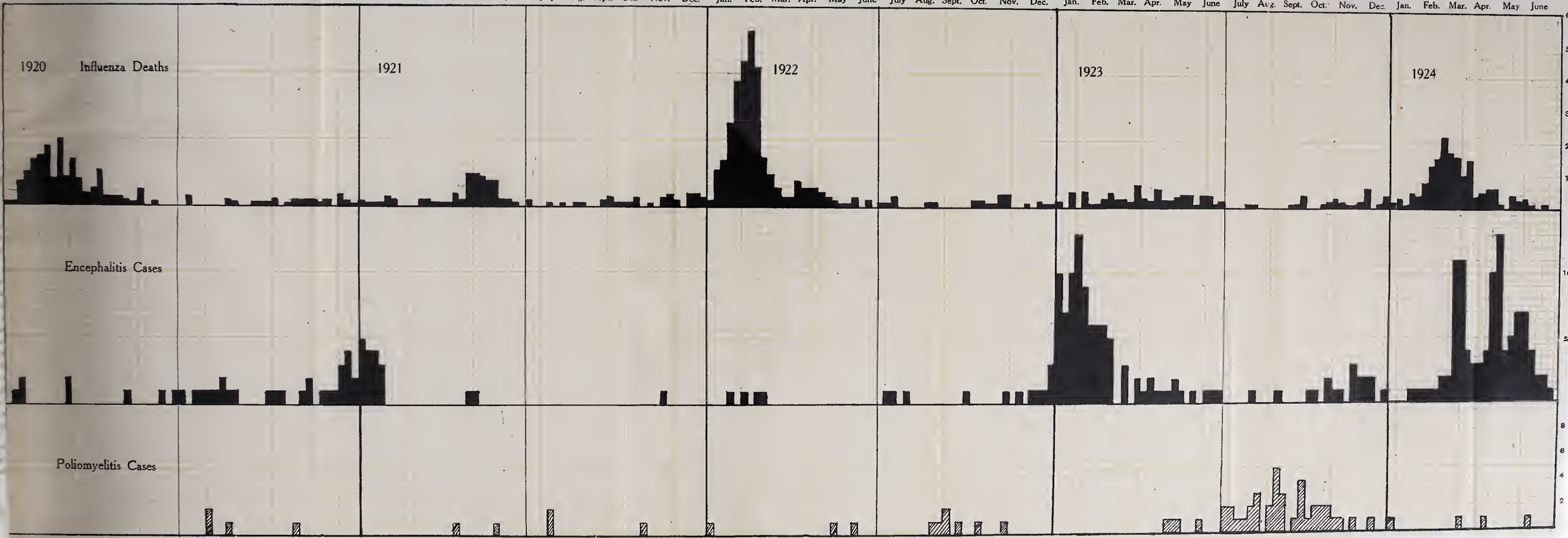
In three cases there was a definite relapse; in each instance this occurred during the period of year—the winter in all cases—when the first attack had taken place. Other cases assume a chronic course.

Of more frequent occurrence is the development of certain characteristic sequels of the disease. These may develop at once or not until a period of months or years after the primary attack; not infrequently they develop, especially in children, after apparently quite mild attacks, and the condition is so characteristic as to enable a diagnosis to be made retrospectively. A number of such cases have been reported by the School Medical Officers. The most frequent change is one affecting the character; a child that was previously normal and well-behaved develops marked irritability, becomes quarrelsome, or mischievous, and uses abusive language, or violently attacks teachers, nurses or others; in other cases the child takes to thieving, and several children have been committed to reformatory institutions on this account; in a few instances this condition has progressed to dementia. Usually, however, there is but little or no diminution in intelligence.

Another not infrequent occurrence is that there is alteration of the diurnal sleep rhythm; in other words, the child cannot sleep at night until, say, 3 or 4 a.m., and in consequence sleeps during a considerable

CITY OF LIVERPOOL.

Influenza Deaths & Cases of Encephalitis Lethargica & Poliomyelitis ~ Cases according to week of onset 1920-1924.





part of the day. This nocturnal excitement is frequently associated with alteration of character.

Another condition is known as Parkinsonism; this consists of a mask-like face, dribbling of saliva, general fixed and rigid attitude of body and, sometimes, marked trembling movements; muscular power is much diminished, especially in the arms.

Of 41 children of 15 years or less who were reported as affected with encephalitis in 1923 only 7 were normal; the remainder showed :—

Alteration of character	23 times.
Alteration of diurnal rhythm	12 ,,
Parkinsonism	8 ,,
Dementia	Twice.
Involuntary movements	Twice.
Fits	Once.

The following Table gives details of the 41 cases reported during 1923 in children of 15 years of age and under :—

Present Condition of Children attacked by Encephalitis Lethargica during 1923.

1.	R.H.	13 years.	Irritable, but otherwise conduct good.
12.	S.D.	15 ,,	Very irritable and quick tempered since illness.
23.	L.H.	13 ,,	Complete recovery.
25.	E.G.	13 ,,	Commencing Parkinsonism; alteration of character.
34.	L.C.	14 ,,	Tendency to drowsiness in day; slight torticollis; eye-sight defective since sickness.
36.	W.T.	12 ,,	Marked irritability; quick temper; had a fit in February, 1924.
38.	E.H.	13 ,,	Difficult to ascertain—mother mentally defective.
41.	T.G.	14 ,,	Since illness irritable, quick tempered, and violent if annoyed.
42.	C.U	12 ,,	Hard to control, untruthful, disobedient, and stupid.
43.	M.S.	14 ,,	Inversion of day and night. Marked twitching movements present.
50.	W.B.	11 ,,	Irritable, sluggish. Alteration of diurnal rhythm. Commencing Parkinsonism.
51.	J.T.	13 ,,	Inversion of day and night. Suffers headaches and twitching movements. Bad tempered and untruthful.

54.	H.M.S.	13	years.	Commencing Parkinsonism.
57.	E.McN.	9	,,	Irritable, otherwise normal.
58.	V.A.B.	9	,,	Peevish and untruthful.
62.	M.I.B.	15	,,	Quite normal.
65.	S.R.M.	8	,,	Appears quite well.
66.	G.M.	13	,,	Irritable at times.
67.	P.E.	7	,,	Alteration of diurnal rhythm. Change in character. Threatened her mother with a knife. Uses abusive language to her.
68.	E.L.	10	,,	Irritable. Loss of self-control. Inversion of diurnal rhythm.
72.	S.B.	15	,,	Parkinsonism.
81.	R.W.	10	,,	Marked alteration of character. Violent. Struck his schoolmaster. Dirty in his habits. Inversion of diurnal rhythm.
82.	E.S.	13	,,	Quite normal.
84.	M.S.	7	,,	Tendency to irritability, otherwise normal.
85.	C.G.	8	,,	Still in hospital.
86.	F.G.	11	,,	Parkinsonism. Involuntary movements.
92.	C.E.W	7	,,	Inversion of day and night, and alteration of character.
93.	I.R.	6	,,	Now in good health.
94.	F.C.	12	,,	Parkinsonism. Early dementia. Physically unfit to attend school.
95.	A.C.	4½	,,	Now quite normal.
96.	J.E.	6	,,	Peevish and unreliable.
98.	L.M.	7	,,	Alteration of character. Fidgetty. Mischievous, and quarrelsome. Sleepy during day.
100.	T.D.	15	,,	Dementia. In hospital.
101.	F.L.	10	,,	Inversion of diurnal rhythm. Has a chronic cough since illness.
102.	H.D	8	,,	Marked sleeplessness at night, and very mischievous. Got up one night and set fire to furniture.
103.	J.D.	10	,,	Inversion of diurnal rhythm, and alteration of character. Has violent fits of temper.
105.	B.C.	13	,,	Quite healthy.
106	C.M.	14	,,	Inversion of diurnal rhythm, and alteration of character. Impudent, mischievous, and quarrelsome. Was sent to work but interfered with machinery and was dismissed at once.
107.	G.A.	11	,,	Inversion of diurnal rhythm.
108.	B.W.	11	,,	Alteration of character. Irritable, hot tempered, quarrelsome.
111.	C.R.	11	,,	Alteration of diurnal rhythm and commencing Parkinsonism.

These sequels also occur in adults, but in them appear to be less frequent than in children and adolescents.

A number of cases have come to light which suffered an attack in previous years, but were not then recognised. According to year of onset these were in 1916 (1), 1920 (7), 1921 (1), 1922 (3), 1923 (2). If account is taken of these cases the total number of cases which have come under the notice of the Health Department has been :—1916 (1), 1917 (nil), 1918 (1), 1919 (2), 1920 (19), 1921 (28), 1922 (8), 1923 (114).

A considerable amount of difficulty has been experienced with these children in schools and elsewhere. Owing to their misconduct, irregular attendance, or sleeping in school, a certain number have had to be excluded; this is unfortunate, as they then tend to run wild, and eventually may come into the hands of the police.

Evidence is accumulating that these conditions are produced by a chronic infection of the brain, and it is possible that certain of these cases are intermittently infectious.

Predisposing Conditions.

Apart from the influence of age already referred to it would appear that some persons are, perhaps temporarily, more susceptible than others. In three cases there was a history of a blow on the head sufficiently severe to cause the person to return home. In two instances the onset followed immediately after extraction of a tooth or teeth under a general anæsthetic or gas. One patient had a long-standing tubercular disease of the spine. Three cases occurred during pregnancy, a condition which appears definitely to predispose to encephalitis.

Several of the cases developing post-encephalitic conditions give histories pointing to previous mental instability or have a family history indicating a poor intellectual quality.

Preventive Measures.

Encephalitis lethargica was made notifiable throughout the country from January 1st, 1919.

In view of the definite, though not very marked, infectivity of the disease all cases which could not be effectually isolated at home were removed to hospital, a course which was attended by much benefit to the patients themselves. As carriers of this disease are believed to occur, and in view of the possible developments of secondary cases, all school children from infected houses were excluded from school for a period of 10 days following the isolation of the case.

DYSENTERY.

During 1923 eight cases of Dysentery were reported in the City in addition to six cases that were brought into the Port of Liverpool on shipboard. Five of the City cases, or 62·5 per cent., proved fatal. Dysentery was formerly prevalent in Liverpool, as many as 233 deaths having been registered from this cause in one year.

Four of the deaths occurring in 1923 were in a house in Haddock Street, Kirkdale, during August. The first child, a girl aged 1 year and 7 months, died on August 16th, and death was certified to be from Diarrhœa. Four other children fell sick between August 15th and 18th, and three of these, aged 5 months, 4 years, and 7 years, died; an elder child, 8 years of age, recovering. As suspicion of food poisoning arose, the deaths were reported to the City Coroner. Investigation by Dr. Ashcroft showed that the cause of death was Dysentery, due to a bacillus known as the Logan Y type, which was first isolated in Macedonia during the war. The older members of the family escaped.

As soon as the cases were reported, an investigation was made by the Assistant Medical Officer. A house to house inspection showed that five other cases of diarrhœa had occurred in Haddock Street during August, one of which proved fatal, and there were also three cases among relatives of the afflicted family, living near by, and four cases in neighbouring streets; three of these cases showed symptoms of dysentery. Bacteriological examinations were made in eight of these cases, but dysentery bacilli were not isolated, the only pathogenic organism which was found being the Morgan No. 1 bacillus, which is frequently found in the Summer Diarrhœa of Infants. This was found in three cases, including the fatal case. Three cases were removed to the City Hospital, Fazakerley, for treatment.

In view of the particular dysentery bacillus responsible for this outbreak having been first isolated during the war, enquiry was made in the street as to any ex-soldier, and it was found that an ex-soldier, who had served in Macedonia, had stayed in the street during June, and was stated to have been sick with symptoms of dysentery, but that he had returned to his home in Stoke-on-Trent. The Medical Officer of Health of Stoke, when requested, kindly had a sample of this ex-soldier's blood examined serologically; it did not, however, agglutinate the strains of dysentery bacilli tested against it.

Having regard to the prevalence of flies in the vicinity, fly-papers were distributed by health visitors to all homes where diarrhœa was present. There are numerous stables in the vicinity, but all, with one exception, had been emptied at intervals of a week or less. All were whitewashed by the staff of the Health Department.

ACUTE ANTERIOR POLIOMYELITIS (Infantile Paralysis).

During 1923 thirty-nine cases of Poliomyelitis were notified, six of which, or 15 per cent., proved fatal. This is a considerable increase on preceding years, 37, 5, 9, 4, 6, 2, 6, 6 and 11 in the years 1914 to 1922. The cases occurring in 1923 were somewhat widely distributed, although there was a definite aggregation in the vicinity of Wavertree Road. In two instances two cases occurred in one house. Two of the fatal cases were old-standing cases, aged 28 and 10 years respectively, and in the first had produced definite feeble-mindedness. Apart from these three cases the 37 acute cases were reported as follows :—May, 1 case; July, 4 cases; August, 10 cases (2 reported as Polio encephalitis); September, 8 cases; October, 7 cases; November, 7 cases.

ANTHRAX.

Four cases of Anthrax occurred in persons residing in the City, three of whom contracted infection in the handling of infected animal products, mainly dry hides, wool or skins.

Three cases from outside the City area were also treated in the City Hospital, namely, one each from Bootle, Sutton Weaver, and Burscough. The Bootle case was a dock labourer. The others were a veterinary surgeon and a butcher's slaughterer, who had been examining or disposing of animals which had died from anthrax. In both the latter cases the infection was localised on the forearm and hand.

Bacteriological Examination of Shaving Brushes.

During the year 22 shaving brushes (8 imitation badger, 13 white bristle, and 1 black bristle) were submitted to the City Bacteriologist for examination, and none of these brushes were found to be infected with Anthrax.

INFLUENZA AND OTHER RESPIRATORY DISEASES.

Respiratory diseases cause an increasing proportion of the total deaths from all causes. In the decennial period 1871-80 the proportion of deaths certified as due to Respiratory diseases was 20·2 per cent. of all deaths; in 1911-1920 it was 27·3 per cent. of all deaths; in 1921 it had again fallen to 22·1 per cent. of all deaths, but in 1922 it rose to 29·1 per cent., falling to 25·1 per cent. in 1923; these alternations correspond to the prevalence or otherwise of influenza. The table below shows for deaths due to Respiratory diseases the actual numbers, the percentage proportion to all deaths, the death-rates per 100,000 population, and the death-rates expressed as a percentage proportion of the rates experienced in 1871-80 (index figures) :—

DEATHS FROM RESPIRATORY DISEASES.

	Actual numbers of deaths.	Percentage proportion to all deaths.	Death-rate per 1,000 population.	Death-rates as a percentage proportion of rate experienced in 1871-80.
1871-80 ...	29,763	20·2	5·7	100
1881-90 ...	32,507	23·2	5·9	104
1891-1900	35,819	24·6	5·9	104
1901-10 ...	32,995	21·8	4·5	79
1911-20 ...	36,480	27·3	4·73	83
1921 ...	2,683	22·1	3·29	57·7
1922 ...	3,501	29·1	4·25	74·5
1923 ...	2;870	25·1	3·46	60·7

The rate per 1,000 population had therefore declined in 1923 to 60·7 per cent. of the 1871-80 rate. The decline, however, has not been steady; a rise occurred in 1881--90, and continued into the following decennium. A later rise occurred in 1911-20 owing to the virulent Influenza pandemic of 1918-19. During 1922 a severe epidemic of influenza affected Liverpool, as many as 51 deaths being attributed to that cause in the week ending February 18th. During 1923 influenza, in epidemic form, was conspicuously absent, only 114 deaths being so attributed, the maximum number of deaths in any single week, that ending March 31st, being 7. The number of deaths from respiratory diseases only exceeded 80 on two weeks in the first half of the year.

During the third quarter of the year the average weekly number of deaths from respiratory diseases fell to about 30. During the last quarter, as is commonly the case, the weekly number of respiratory deaths rapidly increased up till the week ending December 15th, when 105 deaths from respiratory diseases were recorded; there was no evidence of any extensive prevalence of influenza at that time.

In the pandemic waves of Influenza occurring in 1918-20, one of the marked features was the predominance of young adults amongst those fatally affected, the age period 20 to 30 years suffering most heavily. In 1923, the distribution of deaths according to age had returned to the pre-war type and the highest proportion of deaths occurred at the age 60 to 70 years (see table, page 49), and this held during 1923.

CITY OF LIVERPOOL.

DEATHS FROM INFLUENZA ARRANGED BY AGES AND SEXES DURING THE YEARS 1900 and 1918 TO 1923.

	Under 1	5	10	15	20	30	40	50	60	70	80	Over 80	Males.	Females.	Total.
1900	11	8	1	1	4	18	29	37	43	**59**	30	7	114	134	248
1918	33	162	87	60	87	**304**	242	152	130	90	35	6	583	805*	1,338
1919	43	102	50	26	66	**225**	203	155	133	105	40	17	539	624*	1,163
1920	5	4	3	1	6	**44**	36	24	24	21	20	2	97	94	191
1921	7	6	**1**	3	**2**	10	10	18	17	**19**	8	5	51	55	106
1922	7	25	4	1	4	26	48	43	48	**60**	48	19	123	210	333
1923	4	2	1	2	5	9	18	10	13	**23**	22	5	48	66	114
The above deaths expressed as a percentage of the total deaths in each year :—															
1900	4·4	3·2	0·2	0·2	1·6	7·3	11·7	14·9	17·3	**23·8**	12·1	2·8			100
1918	2·4	12·1	5·4	4·4	5·4	**22·0**	18·0	11·3	9·7	6·7	2·7	0·5			100
1919	3·7	8·6	4·3	2·2	5·7	**19·7**	17·8	13·6	11·6	9·2	3·5	1·5			100
1920	2·5	2·1	1·4	0·4	3·1	**23·0**	18·3	12·5	12·5	11·0	10·9	1·1			100
1921	6·6	5·6	1·0	2·8	1·9	9·3	9·3	17·0	16·4	**17·9**	7·5	4·7			100
1922	2·2	7·7	1·3	0·3	1·3	7·8	15·0	13·5	15·0	**18·8**	15·0	5·9			100
1923	3·5	1·8	0·9	1·8	4·4	7·9	15·8	8·8	11·4	**20·2**	19·3	4·4			100

*The excess of female over male deaths in 1918 and 1919 was due to the absence of many men on military service. In 1920 the proportion had returned to the normal.

The following table shows week by week the total number of deaths from all causes, the general death-rate, and the number of deaths from Influenza, Pneumonia, Bronchitis.

These figures do not include the deaths of Liverpool residents which occurred outside the City.

1923. Week ending.	Total Deaths.	Weekly Death Rate per 1,000 of Estimated Population	Number of Deaths from			Total Respiratory Deaths.	Percentage Proportion of Respiratory to Total Deaths.
			Influenza.	Pneumonia and Broncho-Pneumonia	Bronchitis.		
January 6	260	16·4	2	35	44	84	32·3
13	235	14·8	—	31	32	70	29·8
20	265	16·7	5	40	28	72	27·1
27	193	12·1	3	28	29	60	31·1
February 3	222	14·0	5	30	24	58	26·1
10	220	13·7	1	25	22	51	23·2
17	209	13·1	1	28	17	50	23·9
24	243	15·3	4	30	25	57	23·5
March 3	240	15·1	5	30	33	67	28·0
10	235	14·8	3	43	36	81	34·5
17	270	17·0	3	31	35	68	25·2
24	251	15·8	4	28	20	51	20·3
31	255	16·0	7	35	28	68	26·6
	3,098	14·9	43	414	373	837	27·0
April 7	221	13·9	3	30	23	55	24·9
14	227	14·3	2	31	20	55	24·2
21	241	15·1	6	36	36	75	31·1
28	231	14·5	2	26	24	51	22·0
May 5	231	14·5	2	37	22	61	26·4
12	203	12·8	3	34	18	54	26·6
19	238	15·0	4	28	23	52	21·9
26	226	14·2	4	39	19	58	25·7
June 2	214	13·5	1	40	17	59	27·6
9	213	13·4	4	26	28	58	27·2
16	201	12·6	4	23	10	35	17·4
23	221	13·9	1	28	10	40	18·1
30	176	11·1	2	19	12	32	18·2
	2,843	13·7	38	397	262	685	24·1
July 7	172	10·8	—	22	20	44	25·6
14	166	10·4	—	22	16	39	23·5
21	185	11·6	—	16	10	27	14·6
28	147	9·2	1	14	10	25	17·0
August 4	170	10·7	1	15	6	24	14·1
11	183	11·5	—	17	6	25	13·7
18	153	9·6	—	12	9	21	13·7
25	181	11·4	—	19	7	29	16·0
September 1	175	11·0	—	13	6	25	14·3
8	157	9·9	—	18	7	25	15·3
15	179	11·3	1	14	12	26	14·5
22	193	12·1	1	18	10	30	15·5
29	164	10·2	4	9	6	16	9·9
	2,225	10·7	8	209	125	356	16·0

1923. Week ending.	Total Deaths.	Weekly Death Rate per 1,000 of Estimated Population	Number of Deaths from			Total Respiratory Deaths.	Percentage Proportion of Respiratory to Total Deaths.
			Influenza.	Pneumonia and Broncho-Pneumonia	Bronchitis.		
October 6	166	10·4	—	16	15	33	19·9
13	161	10·1	—	19	8	27	16·7
20	184	11·6	1	23	8	31	17·0
27	165	10·4	2	17	18	39	23·6
November 3	184	11·6	3	23	17	41	22·3
10	177	11·1	2	31	23	56	31·7
17	216	13·6	1	50	27	78	36·1
24	228	14·3	1	33	28	64	28·0
31	285	17·9	2	48	40	92	32·3
December 8	270	17·0	5	49	45	100	37·0
15	260	16·4	—	51	49	105	40·4
22	234	14·8	1	45	29	75	32·1
29	238	15·0	4	44	27	72	30·2
31	57	12·5	—	9	9	18	31·6
	2,825	13·6	22	458	343	831	29·4
Total 12 months ...	10,991	13·3	111	1,478	1,103	2,709	24·7

PUBLIC HEALTH (PNEUMONIA, DYSENTERY, ETC.).

REGULATIONS, 1919.

The following Statement shows the number of notifications received under the regulations and the number of deaths during 1922 and 1923 :—

	1922.		1923.	
	Cases.	Deaths.	Cases.	Deaths.
Acute Pneumonia	1,527	1,599	1,946	1,505
Malaria	43	6	36	3
Trench Fever	—	—	1	—
Dysentery	2	7	8	5
	1,572	1,612	1,991	1,513

Enquiry was made into all these cases; 1,538 cases of Influenzal Pneumonia were visited and 39 received assistance from nurses appointed for the purpose, 120 revisits being made.

The majority of the cases of Malaria were amongst ex-soldiers who had been infected whilst on active service in tropical climates. The remainder were amongst the sea-faring population and were principally persons infected on the African Coast.

DEATHS FROM DIARRHŒA AND ENTERITIS

(Under Two Years).

DISTRICTS.	Quarters.								Year.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	To
Scotland	2	3	2	2	15	10	6	6	25	21	46
Exchange	6	3	1	4	10	4	2	2	19	13	32
Abercromby	3	4	4	4	7	7	1	2	15	17	32
Everton	6	5	9	12	15	9	11	6	41	32	73
Kirkdale	5	3	2	1	10	4	4	1	21	9	30
West Derby West	2	3	5	1	9	5	8	3	24	12	36
Toxteth	8	1	10	4	6	7	6	7	30	19	49
Walton	3	3	3	5	1	2	1	7	8	17	25
West Derby East	3	2	2	2	4	1	2	3	11	8	19
Wavertree	1	1	...	3	3	1	4	1	8	6	14
Toxteth East	...	1	...	...	1	...	...	1	1	2	3
Garston	1	...	...	...	...	...	1	...	2	...	2
Fazakerley	...	...	...	...	...	...	...	1	...	1	1
Woolton	...	...	...	...	...	1	...	1	...	2	2
City	40	29	38	38	81	51	46	41	205	159	364

Ages at Death.

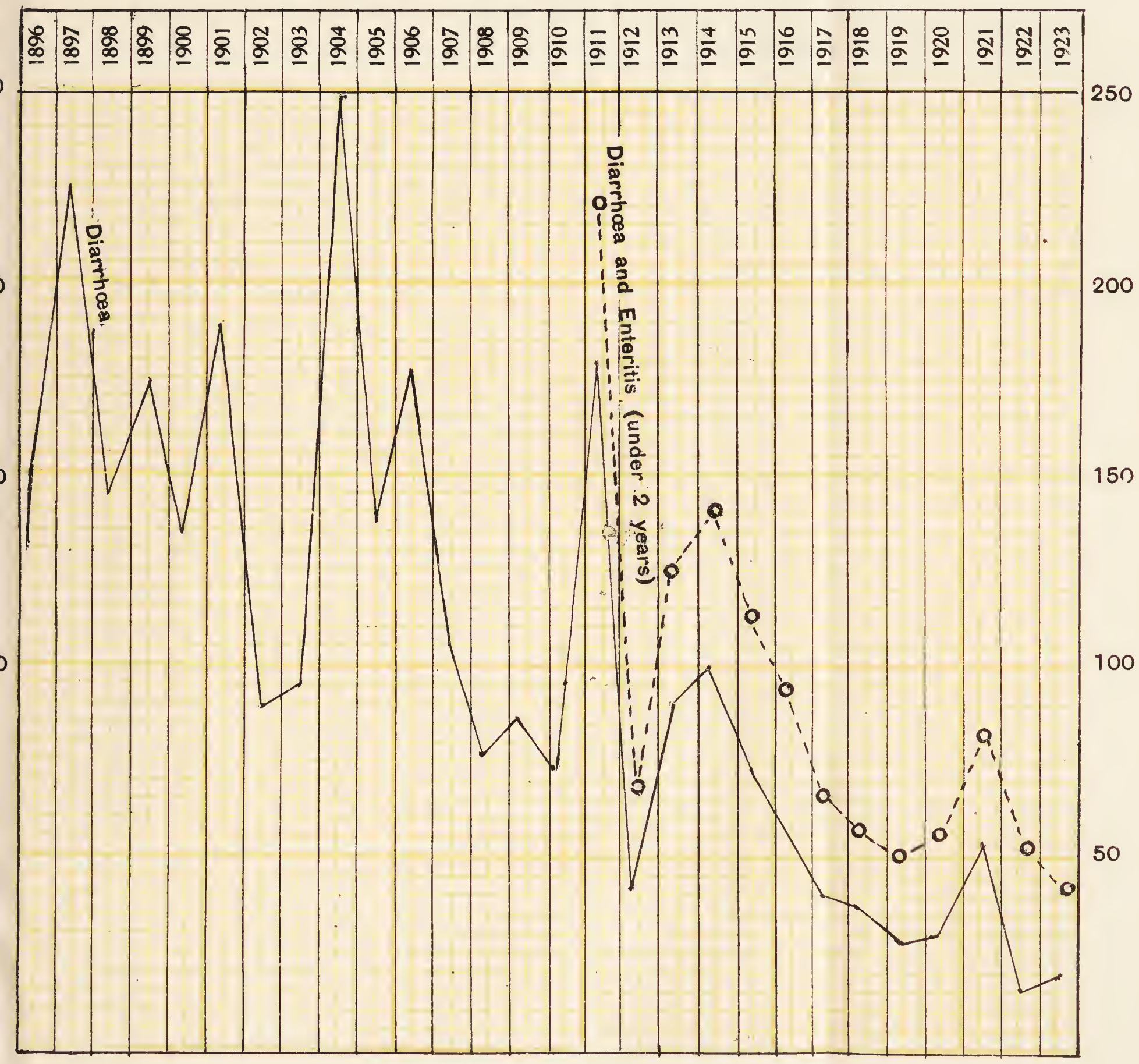
Under 1 year	281
Under 2 years	83
Total	364

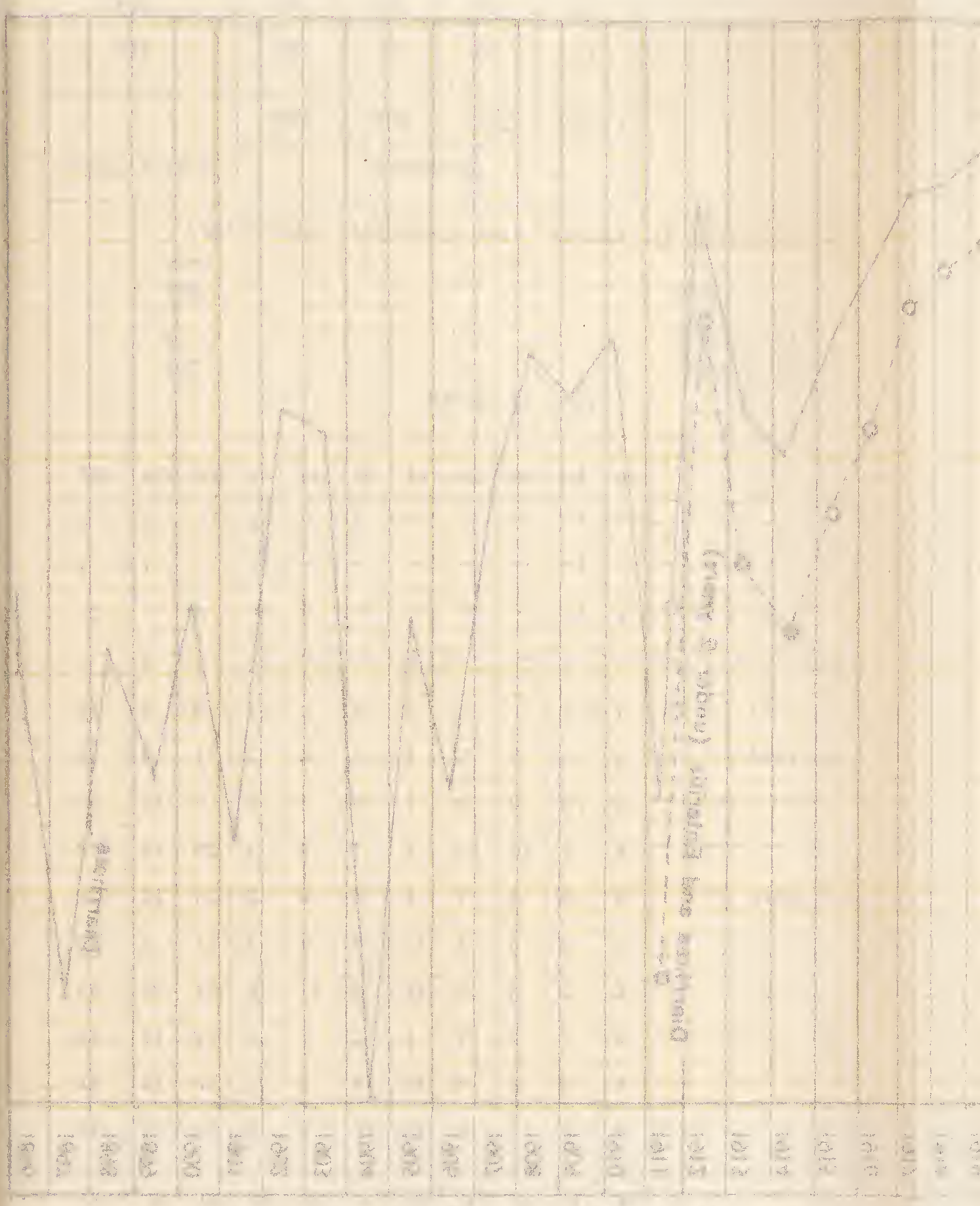
Deaths from Diarrhoea and Enteritis Separately.

	Quarters.				Whole Year.
	1st.	2nd.	3rd.	4th.	
Diarrhœa	17	19	66	38	140
Enteritis	52	55	68	49	224

CITY OF LIVERPOOL.

Diarrhœa Death, Rates (all ages), per 100,000 Population, 1896-1923 together with the combined rate from Diarrhœa and Enteritis (under 2 years), for 1911-1923





DIGESTIVE DISEASES AND DIARRHŒA.

The following table shows the mortality from Digestive Diseases—including diarrhœa—in the City of Liverpool during the last 50 years:

	Actual Deaths.	Deaths expressed as a percentage of deaths from all causes.	Death-rate per 1,000 population.	Death-rates as a percentage of the 1871-80 rate.
1871-1880	14,747	10·0	2·8	100·0
1881-1890	13,186	9·4	2·4	85·7
1891-1900	18,491	12·7	3·0	107·2
1900-1910	18,163	12·0	2·5	89·3
1911-1920	12,282	8·9	1·59	56·7
1921	1,120	9·5	1·37	48·9
1922	673	5·6	0·82	29·3
1923	763	6·7	0·92	32·8

The deaths from digestive diseases, which had been very numerous prior to 1871, fell in the penultimate decade of last century, but rose again in the last decade. Since the early years of the present century there has been a marked decline in the number of deaths. This was especially so during the latter years of the war.

Diarrhœa and Enteritis form the greater part of the deaths from digestive diseases. Of these deaths approximately two-thirds occur in infants under one year of age. The age distribution of deaths from diarrhœa and enteritis during the past 50 years is shown in the next table.

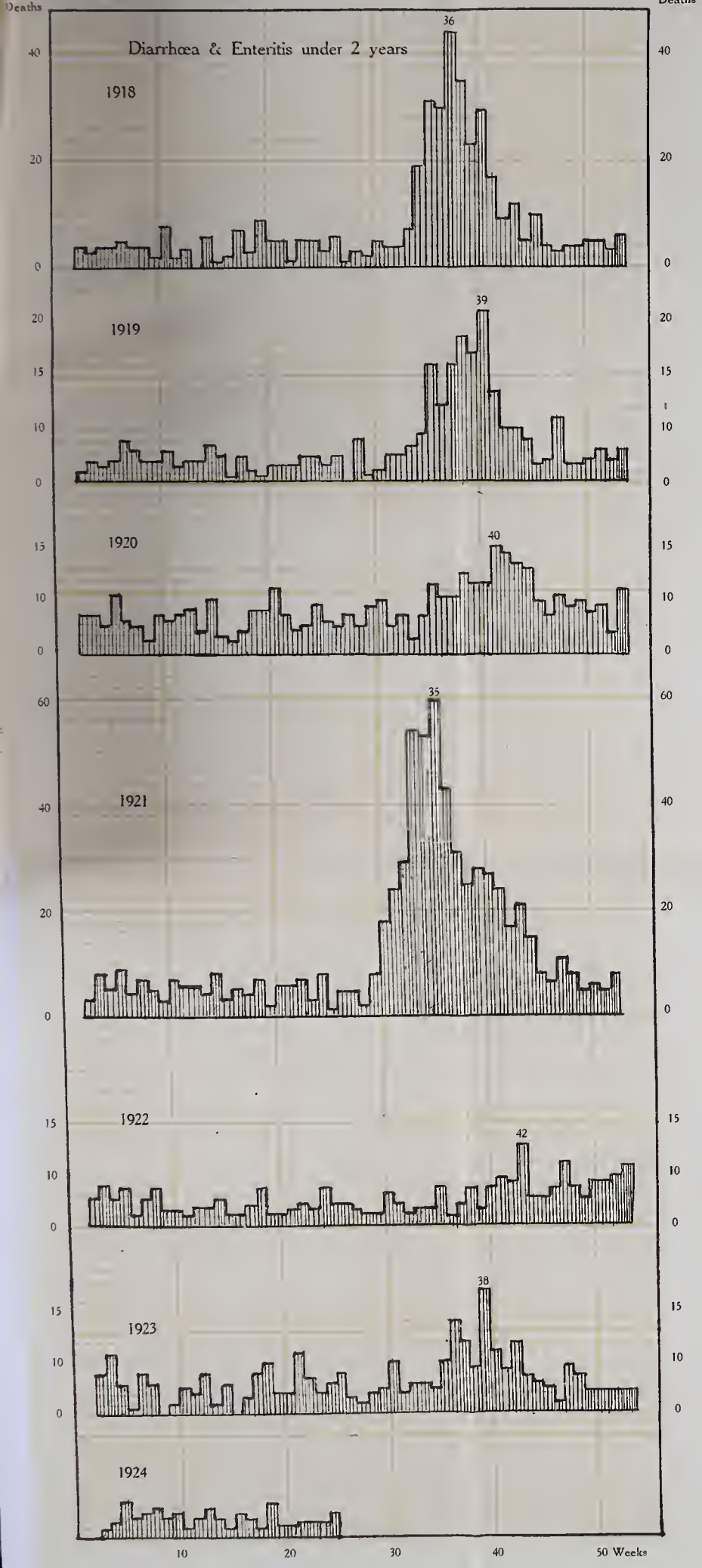
	Average Numbers.					Per Cent.			
	1	2	5	Over 5 years	Total	1	2	5	Over 5 years
1871-1880 ...	559·9	170·4	36·3	79·4	846·0	66·2	20·1	4·3	9·4
1881-1890 ...	361·5	121·0	35·2	58·0	575·7	62·7	21·0	6·1	10·1
1891-1900 ...	577·4	167·7	40·8	60·1	846·0	68·0	19·8	4·8	7·2
1901-1910 ...	591·7	207·9	45·3	35·3	880·2	67·2	23·6	5·2	4·0
1911-1915 ...	619·6	285·4	58·6	43·2	1006·8	61·3	28·3	5·8	4·3
1916-1919 ...	312·2	104·5	31·2	63·5	511·5	61·0	20·4	6·1	12·4
1920 ...	382	61	17	29	489	79·1	12·5	3·5	5·9
1921 ...	514	169	33	66	782	65·7	21·7	4·2	8·4
1922 ...	224	46	17	38	325	68·8	14·1	5·2	12·0
1923 ...	281	83	14	44	422	66·6	19·7	3·3	10·4

Down to the year 1915 there was a decline in the proportion of deaths from diarrhœal diseases in persons over five years of age, but otherwise there was very little variation in the ages at death. During the war period, however, owing to the fall in the birth-rate, the proportions varied somewhat. Owing to the rapid rise in the birth-rate in 1920 the proportions at different ages were quite abnormal. In 1921, however, the proportions of death at different ages returned to the normal pre-war distribution. In 1923 exactly two-thirds of the deaths were in infants during their first year of life.

Diarrhœa and Enteritis took a heavy toll of infant life during 1921, the number of infant deaths being 683. Mortality from Diarrhœa is always heavier in dry hot summers, and 1921 was exceptional in both respects. When comparison is made with earlier epidemic years during which the climatic conditions were favourable to the development of the disease it will be seen that the mortality has been very much

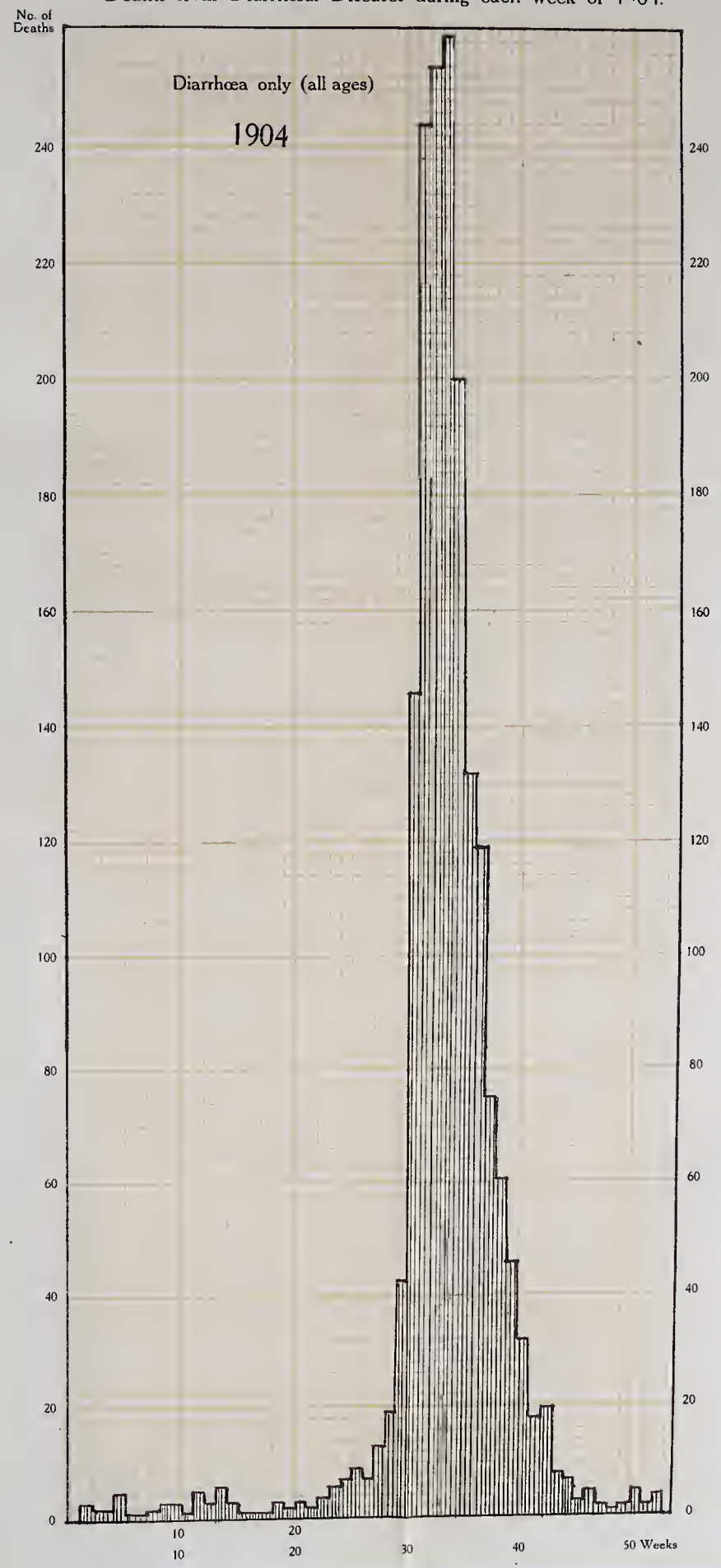
CITY OF LIVERPOOL.

Deaths from Diarrhœal Diseases during each week of 1918-1923



CITY OF LIVERPOOL.

Deaths from Diarrhœal Diseases during each week of 1904.





reduced. In 1923, the climatic conditions were not specially favourable to the spread of Diarrhœa, and the mortality from Diarrhœa and Enteritis at all ages was reduced to 422, of which number 364 were under two years of age, equal to a rate of 42·4 per 100,000 of the population, the lowest figure heretofore recorded. A noticeable feature of recent years has been that the height of the summer epidemic, which formerly occurred in August, about the 31st week of the year, has occurred progressively later and later in the year. In 1922 the peak of the epidemic, if it may so be termed, was not reached until October, namely, in the 41st week, and in 1923 in the 38th week. The diminution in the size of the epidemic in recent years and its concurrent retardation are well shown in the accompanying diagram. The mortality in the year 1904, twenty years ago, is shown for comparison. In that year the peak of the epidemic was reached in the 33rd week, no fewer than 259 deaths from diarrhœa only being recorded in that week, as against 18, the greatest number in any week during 1923.

In 1911 the Registrar-General included Diarrhœa and Enteritis (under two years of age) under one heading. Under the term Enteritis many cases of diarrhœal diseases are doubtless included, but it also includes deaths from many conditions, including convulsions, which are not accompanied by the symptom of diarrhœa. It will be observed, if reference is made to the table on page 52, that whilst there is a marked excess of deaths from Diarrhœa during the third, and to a less extent the fourth, quarter of the year, there is no corresponding increase in the number of deaths from Enteritis in those quarters. As this marked seasonal variation in the number of deaths is characteristic of "Summer Diarrhœa" of children it would appear that the 140 deaths registered as from "Diarrhœa" is a better index of the prevalence of that disease than is the total of 364 deaths included under the joint heading "Diarrhœa and Enteritis."

The mortality rate per 1,000 of the Births registered in the City during the last two years from Diarrhœa and Enteritis (under 2 years of age) was 8·6. The mortality in the several districts of the City is shown in the subjoined table:—

	Births 1922-23.	Deaths. 1923.	Death Rate per 1000 births occurring during last two years.
Scotland	3,373 ...	46 ...	13·6
Exchange	2,340 ...	40 ...	17·1
Abercromby	2,257 ...	31 ...	13.8
Everton	7,369 ...	62 ...	8·4
Kirkdale	3,852 ...	31 ...	8·0
West Derby, West ...	4,786 ...	38 ...	7·9
Toxteth	5,986 ...	52 ...	8·7
Walton	3,291 ...	31 ...	9·4
West Derby, East ...	3,985 ...	14 ...	3·5
Wavertree	1,839 ...	14 ...	7·6
Sefton Park	1,111 ...	1 ...	0·9
Garston	1,353 ...	2 ...	1·5
Fazakerley	237 ...	1 ...	4·2
Woolton	383 ...	1 ...	2·6
	42,162 ...	364 ...	8·6

The experience of previous years points strongly to the importance of flies as carriers of infection and that collections of stable manure form the most important breeding places for these insects. Regular visits of inspection are paid to stables and the occupiers informed as to the desirability of regular weekly removals of manure. The following notice has been issued to the owners of stables in recent years with the object of securing the frequent removal of manure from the latter :—

NOTICE.

REMOVAL OF MANURE FROM STABLES.

The Health Committee are very desirous that Manure from Stables should be removed with as little delay as possible, and with this object in view, arrangements have been made with the City Engineer for its speedy removal.

On application to the City Engineer, Municipal Offices, Dale Street, Manure will be removed from stable yards as often as required, free of charge.

NOTIFICATION OF INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in the City of Liverpool during 1923 :—

Anthrax
Anterior Poliomyelitis
Cerebro-spinal Fever
Cholera.
Continued Fever
Diphtheria
Dysentery
Enteric Fever
Erysipelas
Encephalitis Lethargica, Acute
†German Measles
†Measles.
Malaria
Membranous Croup
Ophthalmia Neonatorum
Paratyphoid Fever
Plague
Pneumonia, Acute Influenzal
Pneumonia, Acute Primary
Polioencephalitis, Acute
Poliomyelitis
Puerperal Fever
Relapsing Fever
Scarlet Fever or Scarlatina
Smallpox
Tuberculosis (all forms)
Trench Fever
Typhoid Fever
Typhus Fever.

The numbers of notifications received by the Medical Officer during the past three years, were as follows :—

	1921.	1922.	1923.
January	898	728	573
February	796	731	550
March	896	519	644
April	937	446	501
May	1,272	523	560
June	1,280	433	473
July	859	455	409
August	668	441	368
September	966	396	470
October	1,379	529	529
November	1,761	668	743
December	2,145	722	738
	13,857	6,591	6,558

† Measles and German Measles ceased to be compulsory notifiable on 31st October, 1920, but a system of voluntary notification has been continued as is also the case with Chickenpox.

The diseases were notified as follows :—

	1921.	1922.	1923
Smallpox	1	2	3
Scarlet Fever	2,786	2,263	2,165
Enteric Fever	50	45	35
Paratyphoid Fever ...	1	—	—
Relapsing Fever	1	—	1
Typhus Fever	—	—	—
Puerperal Fever	46	55	50
Continued Fever	3	1	—
Diphtheria and Croup ...	1,090	874	944
Erysipelas...	486	532	395
Anthrax	5	8	5
Cerebro-spinal Fever ...	25	20	16
Acute Poliomyelitis ...	3	10	37
Measles and German Measles	6,000	2,405	7,780
Ophthalmia Neonatorum	660	669	707
Pneumonia and Influenzal Pneumonia...	2,011	1,525	1,901
Malaria	99	46	34
Trench Fever	1	—	2
Dysentery...	17	3	4
Encephalitis Lethargica...	34	9	111
Polioencephalitis ...	—	—	4
Chickenpox	538	531	851
Plague	—	—	—
	13,857	8,998	15,045

The following table shows the number, monthly distribution, and nature of cases of Infectious Disease coming under the notice of the Medical Officer of Health during the year 1923 :—

Year— 1923.	Enteric Fever.	Smallpox.	Scarlet Fever.	Measles and German Measles.	Diphtheria and Croup.	Puerperal Fever.	Erysipelas.	Cerebro-spinal Fever.	Poliomyelitis.	Ophthalmia Neonatorum.	Pneumonia & Influenzal Pneumonia.	Malaria.	Dysentery.	Encephalitis Lethargica.	Whooping Cough.	Anthrax.	Total.
January ...	3	...	136	137	91	7	37	...	1	53	167	5	1	10	316	...	964
February	1	...	180	294	96	5	29	...	...	65	146	2	...	40	268	...	1126
March ...	2	...	222	696	109	3	37	1	...	69	193	—	1	18	346	1	1698
April	...	1	192	722	76	...	37	...	...	64	133	1	...	7	310	...	1543
May	2	...	182	1176	64	2	35	1	1	59	164	...	...	7	208	...	1901
June	...	...	201	2569	69	5	26	1	...	74	168	3	...	4	262	...	3382
July	4	...	134	1262	77	3	16	...	4	65	86	2	...	4	66	1	1724
August ...	...	...	119	406	41	7	20	...	7	45	82	9	5	1	152	...	894
September	2	...	267	672	101	2	24	1	11	62	101	1	...	2	117	...	1363
October ...	2	...	195	838	84	...	45	3	5	50	87	5	...	2	85	...	1401
November	...	...	208	916	68	4	49	...	9	51	246	6	1	7	59	1	1625
December	...	...	271	1401	117	5	40	1	1	50	373	2	...	9	72	1	2343
Total...	16	1	2307	11089	993	43	395	8	39	707	1946	36	8	111	2261	4	19964
Removed to hospital	15	1	1954	1440	926	29	165	6	21	55	720	14	5	81	122	4	5558

The number of patients removed to hospital includes those admitted to the general hospitals, as well as those admitted to the city infectious diseases hospitals.

The following table gives a summary of cases of Infectious Disease coming under the notice of the Medical Officer of Health during the last six years:—

Disease.	1918	1919	1920	1921	1922	1923
Smallpox	—	13	9	—	2	1
Plague	—	1	1	—	—	—
Typhus Fever	2	—	—	1	—	—
Enteric Fever	65	39	44	30	31	16
Scarlet Fever	3,020	2,797	3,230	3,062	2,419	2,307
Measles and German Measles	9,268	3,983	11,448	9,143	3,570	11,089
Diphtheria	1,494	1,959	1,654	1,182	953	993
Puerperal Fever	28	55	69	60	60	43
Erysipelas	454	564	505	471	522	395
Cerebro-spinal Fever	17	26	27	26	18	8
Poliomyelitis and Polioencephalitis	6	2	6	6	11	39
Ophthalmia Neonatorum	587	672	766	660	669	707
Anthrax	10	14	4	—	4	4
Encephalitis Lethargica	—	2	17	27	5	111

DEATHS FROM INFECTIOUS DISEASE.

Table shewing the deaths from Infectious Disease occurring during the last six years:—

Disease.	1918	1919	1920	1921	1922	1923
Smallpox	—	1	2	—	—	—
Plague	—	1	1	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	13	7	8	8	6	6
Scarlet Fever	133	74	70	45	39	43
Measles and German Measles	407	103	387	328	171	356
Diphtheria	228	212	188	97	91	87
Influenza	1388	1163	191	106	333	114
Puerperal Fever	17	20	37	34	33	16
Erysipelas	15	23	26	18	26	27
Cerebro-spinal Fever	12	22	18	19	14	6
Poliomyelitis and Polioencephalitis	5	—	—	4	4	6
Anthrax	—	3	1	—	--	2
Encephalitis Lethargica	—	—	2	5	3	36
Whooping Cough	364	53	228	210	182	156

DEATHS FROM ZYMOTIC DISEASES.

Zymotic diseases were the cause of 1,338 deaths during the year 1923, and accounted for 11·7 per cent. of the total mortality within the City during this period. The death rate from the seven principal zymotic diseases was 0·85 per 1,000 population. The deaths from the various types of disease during 1923 were as follows :—

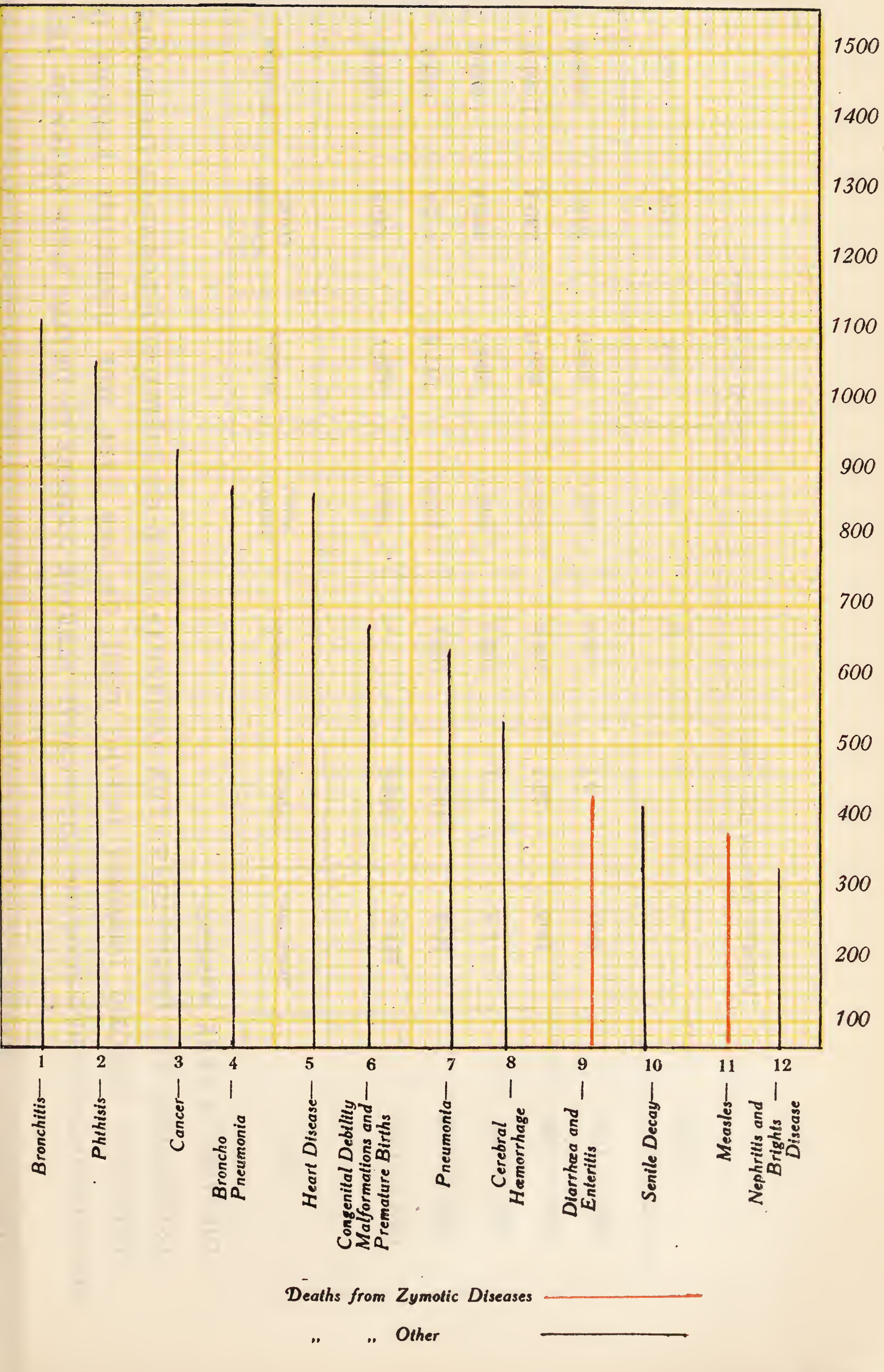
	Quarters.				Year 1923.
	March.	June.	Sept.	Dec.	
Total Zymotics	326	376	359	277	1,338
Smallpox	...	...	...	...	...
Measles	49	116	109	82	356
Scarlet Fever	5	15	7	16	43
Diphtheria	41	20	13	13	87
Whooping-Cough	46	64	31	15	156
Diarrhœa and Enteritis (under 2 years)	69	74	134	87	364
Influenza	43	40	8	23	114
Fever — Typhus	...	...	...	...	...
Fever — Enteric	2	1	1	2	6
Other Zymotics	71	46	56	39	212

Note.—Influenza, Measles, and Whooping-Cough appear to have been predisposing causes in the case of many deaths primarily ascribed to Respiratory Disease inasmuch as one or other of these Zymotics preceded the fatal illness.

CITY OF LIVERPOOL.

COMPARATIVE VIEW OF TWELVE OF THE PRINCIPAL CAUSES OF DEATH DURING THE YEAR 1923.

M.61799.Est.





THE FOLLOWING TABLE SHOWING THE ANNUAL AVERAGE NUMBER OF DEATHS FROM SEVEN OF THE PRINCIPAL ZYMOTIC DISEASES DURING EACH OF THE LAST FIVE DECENNIAL PERIODS, IS INTERESTING AND INSTRUCTIVE. THE DECLINE IN THE MORE FORMIDABLE FORMS OF INFECTIOUS DISEASES IS VERY MARKED.

Years.	Small Pox.	Typhus.	Enteric.	Scarlet Fever.	Measles.	Whooping Cough.	Diarrhœa.
1866 to 1875	237·4	652·8	† —	789·4	425·7	496·8	995·3
1876 to 1885	90·8	238·0	126·4	421·2	517·8	472·3	658·4
1886 to 1895	8·8	37·1	153·0	257·5	399·5	322·4	600·6
*1896 to 1905	19·5	25·1	134·4	201·3	329·0	330·4	1,061·9
1906 to 1915	0·04	5·7	50·3	141·6	438·0	296·7	848·0
1923.....	—	—	6	43	356	156	148

* Including extended City area.

† Records not available.

ANNUAL AVERAGE NUMBER OF DEATHS FROM SEVEN OF THE PRINCIPAL ZYMOTIC DISEASES DURING EACH OF THE LAST FIVE DECENNIAL PERIODS, DISTINGUISHING THOSE OF PERSONS ABOVE AND BELOW FIVE YEARS OF AGE.

Years.	Smallpox.		Typhus.		Enteric.		Scarlet Fever.		Measles.		Whooping Cough.		Diarrhœa.	
	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.
1866 to 1875	141·7	95·7	*—	*—	* —	* —	187·7	601·7	14·4	411·3	9·9	486·9	105·7	889·6
1876 to 1885	62·5	28·3	†190·0	† 5·1	†110·3	† 12·1	137·0	284·2	35·4	482·4	18·6	453·7	61·9	596·5
1886 to 1895	6·2	2·6	36·2	·9	142·0	11·0	87·6	169·9	28·3	371·2	15·1	307·3	60·2	540·4
**1896 to 1905	14·5	5·0	24·2	·9	128·4	6·0	61·7	139·6	17·1	311·9	11·9	318·5	53·6	1,008·3
1906 to 1915	·04	—	5·5	·2	49·0	1·3	50·9	90·7	23·9	414·1	9·2	287·5	30·8	817·2
1923	—	—	—	—	6	—	15	28	10	346	3	153	10	138

* During these years the ages at death from Typhus and Enteric were not differentiated.

† During the six years, 1880-1885.

** Including extended City area.

The following table shows the number of deaths, the annual average death-rate per 100,000 of the population from the undermentioned forms of disease during the last six decades, 1856 to 1915, and during 1923:—

ISEASE.		1856 to 1865.	1866 to 1875.	1876 to 1885	1886 to 1895.	1896† to 1905.	1906‡ to 1915	1923
	Average Population	443,938.	493,405.	538,651.	536,974.	691 351.	747,015.	829,881.
rlet Fever	Total Deaths ...	5,994	7,894	4,212	2,575	2,0 3	1,416	43
	Rate per 100,000 per annum.	135·0	159·9	78·1	47·9	29·1	19·0	5 2
hus Fever	Total Deaths ...	7,482	6,528	2,380	371	251	57	0
	Rate per 100,000 per annum.	168·5	132·2	44·1	6·9	3·6	0·8	0·0
teric Fever	Total Deaths ...	*	*	1,264	1,530	1,344	503	6
	Rate per 100,000 per annum.	—	—	21·5	28·4	19·3	6·7	0·7
asles	Total Deaths ...	3,215	4,257	5,178	3,995	3,290	4,380	356
	Rate per 100,000 per annum.	72·4	86·2	96·1	74·3	47·5	58·6	42·9
hooping Cough	Total Deaths ...	4,779	4,968	4,723	3,224	3,304	2,967	156
	Rate per 100,000 per annum.	107·6	100·6	87·6	60·0	47·7	39·7	18·8
allpox	Total Deaths ...	1,673	2,374	908	88	195	3	0
	Rate per 100,000 per annum.	37·6	48·1	16·8	1·6	2·8	0·4	0·0
thisis	Total Deaths ...	15,572	16,476	13,754	11,436	12,632	12,010	1,046
	Rate per 100,000 per annum.	350·7	333·9	255·3	212·9	182·7	160·7	126·0

† City Boundaries extended in 1895, 1902, 1905.

‡ ,, ,, ,, 1913.

* Records not available.

DIABETES.

The following table shows the incidence of fatal cases of Diabetes in Liverpool since 1890:—

	Actual Numbers.			Average.			Rate per 100,000	Ratio of Males to Females.
	Males.	Females.	Total.	Males.	Female.	Total.		
1890–1894	55	45	100	11·0	9·0	20·0	3·8	1·22
1895–1899	99	76	175	19·8	15·2	35·0	5 3	1·30
1900–1904	132	100	232	26·4	20·0	46·4	6·5	1·32
1905–1909	153	124	277	30·6	24·8	55·4	8·4	1·23
1910–1914	162	153	315	32·4	30·6	63·0	8·4	1·06
1915–1919	153	137	290	30 6	27·4	58·0	7·4	1·12
1920	25	41	66					
1921	21	36	57					
1922	40	48	88	30·2	39·7	70·0	8·5	1·13
1923	35	34	69					

The death-rate from Diabetes rose steadily up till 1910-14. It is probable that this rise was largely due to improved diagnosis. During the War the number of deaths showed a distinct fall, especially in 1917 and 1918; this was a real fall and not merely due to the absence of males on military service as, on the average of five years, females were equally affected with males. Since the War the figures have again risen, and are slightly above the average for the decade 1910-19. The disparity, in the incidence, between the two sexes, previously in favour of the females, has since 1904 tended to disappear. In 1890-1894, 55 per cent. of the deaths were of males; but in 1920-22, the position was reversed and only 40·8 per cent. were of males. In 1923, the mortality was equal in the two sexes.

DEATHS FROM CANCER, AND THE PART OF THE BODY AFFECTED, DURING THE YEARS 1918 TO 1923.

Part of the Body affected.	1918.			1919.			1920.			1921.			1922.			1923.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total	M.	F.	Total	M.	F.	Total.
Buccal Cavity	76	9	85	63	6	69	67	5	72	79	7	86	87	8	95	89	7	96
Stomach, Liver, etc	122	110	232	131	121	252	152	129	281	123	122	245	132	113	245	114	137	251
Intestines, etc.	84	82	166	77	81	158	88	80	168	78	87	165	68	70	138	94	66	160
Breast	1	51	52	—	68	68	—	75	75	1	72	73	—	69	69	—	70	70
Female Genital Organs ...	—	101	101	—	107	107	—	90	90	—	107	107	—	102	102	—	116	116
Parts not specified	72	42	114	81	48	129	102	58	160	148	66	214	119	80	199	134	94	228
Totals.....	355	395	750	352	431	783	409	437	846	429	461	890	406	442	848	431	490	921

DEATHS FROM EXCESSIVE DRINKING, &c.

The number of deaths from drink is still very low when compared with pre-war years. During the year 1923 they numbered 13, which is one above the lowest figure ever recorded in the City from this cause.

The number of deaths of infants under one year of age from suffocation was 7, which is the lowest recorded figure of any previous year.

Improved habits and conditions, wider educational influences and other agencies, including those associated with the welfare of motherhood and infancy have all played their part in promoting a more temperate use of alcoholic drinks with results which are eminently satisfactory.

Housing operations so far as they have gone have unquestionably contributed towards improving the general conditions of life and social habits of the people formerly housed in insanitary surroundings in slum areas.

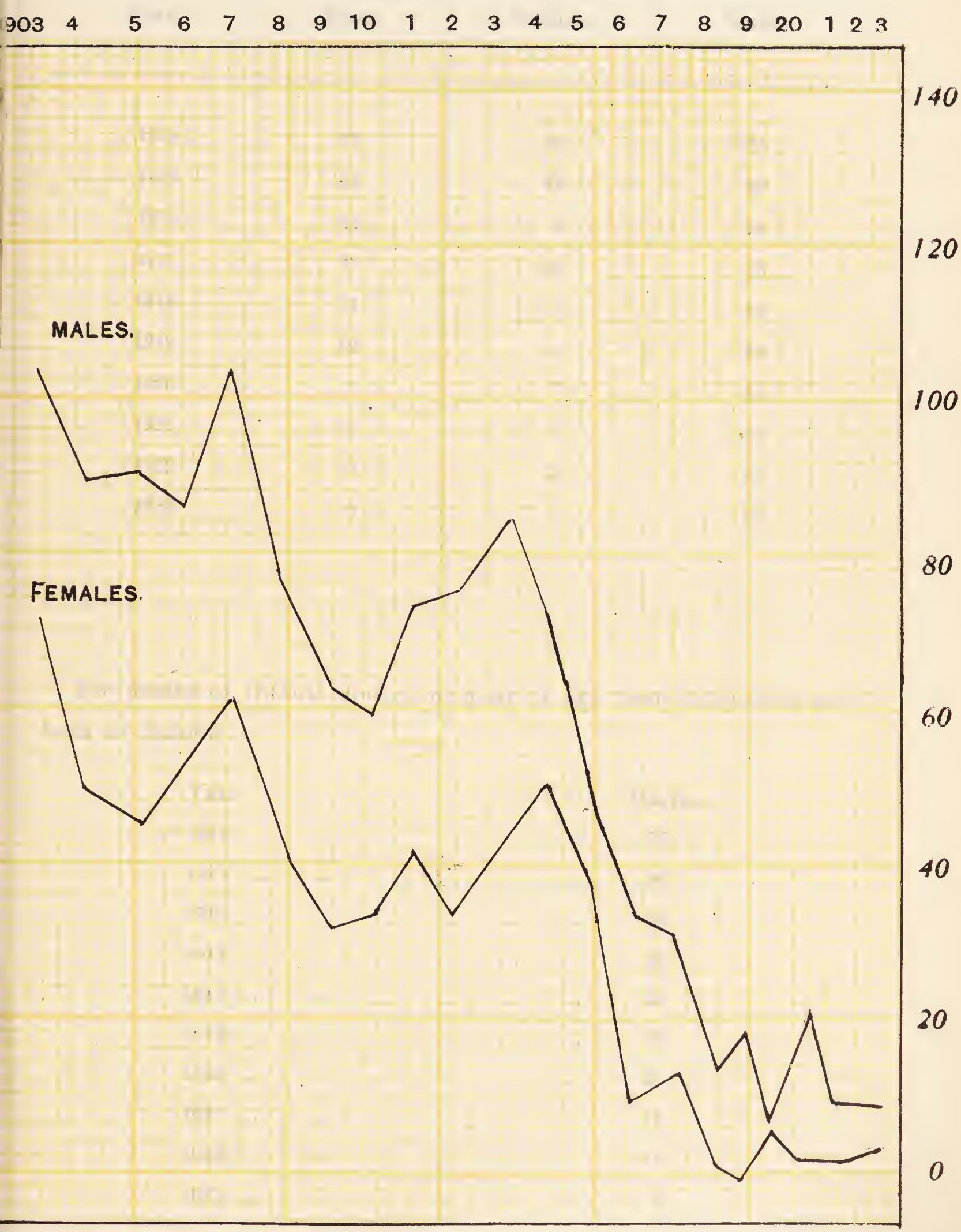
The improved conditions of the children is especially noticeable; the reports in connection with Medical Inspection of School Children in the poorer localities show welcome improvement, the details in reference to this subject being given in the Annual Report to the Education Committee.

The following tables give the actual figures for the past ten years of the deaths from excessive drinking, and the deaths of infants under one year of age from suffocation. The appended chart shows the deaths from excessive drinking since the year 1903.

CITY OF LIVERPOOL.

Deaths from excessive drinking during the 21 years 1903 to 1923.

Marked reduction in number of deaths coincides with period of restricted sale of Alcoholic Liquors.





Year.	Males.	Females.	Total.
1914	73	52	125
1915	48	38	86
1916	35	9	44
1917	33	15	48
1918	14	2	16
1919	19	—	19
1920	7	7	14
1921	21	3	24
1922	10	2	12
1923	9	4	13

The deaths of infants under one year of age from suffocation have been as follows :—

Year.	Deaths.
1914	76
1915	50
1916	36
1917	23
1918	26
1919	25
1920	23
1921	12
1922	18
1923	7

DEATHS FROM GAS POISONING.

Deaths from this cause fall under two headings, namely, deaths from accidental poisoning (3 deaths) and suicides (28 deaths), a total of 31 deaths occurring in the year.

The circumstances of the accidental deaths were as follows :—

Through the Gas being accidentally left on	2
How brought about the evidence was insufficient to show...	1

BLIND PERSONS ACT, 1920.

The following is the Scheme, proposed by the City Council and approved by the Ministry of Health, for the administration of the Blind Persons Act, 1920, in the City of Liverpool :—

Area.—The area to be covered for the purposes of the Scheme is the City and County Borough of Liverpool.

Objects.—To provide as far as practicable for :—

(*a*) Children under school age;

(*b*) Education and training of children and adults;

(*c*) Employment;

(*d*) Augmentation of earnings of adult blind;

(*e*) Unemployable blind;

(*f*) General social welfare;

(*g*) Registration.

Children.—Children under school age shall be referred to the Health Committee for visitation by the Health Visitors. They shall receive, where possible or desirable, the benefit of Nursery School Treatment, and in cases of children between 2 and 5 years of age where the home conditions are unsatisfactory the Education Committee may arrange to remove children to a suitable home.

The Elementary Education of children between the ages of 5 and 16 years shall be undertaken by the Education Committee, who shall continue the existing arrangements for the education of such children at the following institutions, viz. :—

Wavertree School for the Blind,
Liverpool Catholic Blind Asylum,
Walmer School for Blind and Defective, Rhyl,

or at such other Institutions as they may consider desirable.

Young Persons and Adults.—The further education of blind persons above the age of 16 years, whether Secondary or Technical, shall be left to the Education Committee, who shall also arrange where necessary for the proper maintenance in residential Institutions or otherwise of students during their periods of training. This provision shall include persons who became blind in adult life and who are capable of receiving and being benefited by such education.

Employment and Augmentation of Earnings.—Provision for the employment in workshops of trained persons over 21 years of age, and for the accommodation of such persons in Hostels as required, shall continue to be made by the Liverpool Workshops for the Blind, School for the Indigent Blind, and Catholic Blind Asylum, subject to the following conditions :—

(*a*) That any extension of the existing provision for the employment of blind persons so far as it affects this City be referred to the City Council for approval.

(*b*) That the said Institutions shall submit for the approval of the City Council a scale of augmentation of the wages of blind persons employed either in workshops or at their own homes.

(*c*) That such scale of augmentation shall include the proposed monetary relief in cases where wages and augmentation are insufficient for proper maintenance.

(*d*) That a scheme for the assistance of Home Workers shall be organised by the said Institutions in collaboration with the Home

Teaching Society for the Outdoor Blind, which scheme shall be subject to the approval of the City Council.

Unemployable Blind.—The care and maintenance in Homes or otherwise of destitute blind persons who are incapable of work shall remain in the hands of the West Derby Board of Guardians, the Liverpool Workshops for the Blind, the School for the Indigent Blind, and the Catholic Blind Asylum, but the work of such bodies and agencies shall be co-ordinated as hereinafter provided.

General Social Welfare.—The services of Home Teaching, Visiting, and General Social Welfare shall be carried out by the Home Teaching Society for the Outdoor Blind, and such other Institutions as may be approved by the City Council, and such societies shall be requested to submit to the City Council any proposals for the extension of necessary welfare services.

Registration.—It shall be the duty of the City Council to provide and maintain a system of registration of blind persons with full records as required by the Ministry of Health.

Administration.—The duties of the City Council shall be administered by the Health Committee, who shall be assisted by two representatives appointed by each of the several Institutions in the City interested in the welfare of Blind persons, the League for the Blind, and the West Derby Board of Guardians.

Miscellaneous.—The City Council shall take such other steps as may be lawful for giving effect to the provisions of Section 2 of the Blind Persons Act, 1920.

During the year 1923 the work of the various Societies and Associations concerned with the care of the Blind was co ordinated by the Committee specially appointed under the Blind Persons Act, 1920, and the sum of £2,500 was granted to the Liverpool Workshops for the Blind and the Home Teaching Society, to assist these agencies in promoting the welfare of the Blind.

MATERNITY and CHILD WELFARE.

It is satisfactory to be able to record that the infant mortality rate for 1923 (99 per 1,000 births) is only a few points above that of 1922 (96 per 1,000 births), which was the lowest recorded in the City. A glance at the chart facing page 78 will show how the rate, in spite of fluctuations in individual years, has steadily declined during the last twenty-five years. At the beginning of this period the figure was more than double what it is to-day, namely, over 190 per 1,000 births.

It is very gratifying to record this decline, and moreover, it may be noted that the numbers of deaths from all the usual forms of infantile disease, such as Broncho-pneumonia, Convulsions, Prematurity, etc., have been reduced, but the most markedly affected cause is the one which, in former years, frequently proved the most fatal, namely, epidemic Diarrhœa. The number of deaths under one year of age from this cause in the year 1923 was 281, as against an average of 1,000, or 1,100 twenty-five years ago. No doubt this gratifying result is due to a variety of causes, but one which has most materially hastened the decline is the initiation and carrying-on by the Health Committee of schemes for the promotion of the welfare of motherhood and infancy, including the work of the Health Visitors, the Day Nurseries, Infant Welfare Clinics and Milk Depôts. It is unfortunate that a corresponding reduction cannot be recorded in the case of the mothers. No doubt the problems surrounding maternity are more difficult to solve than those relating to the lives of infants, but closer attention is being paid to the dangers to which the mothers are subject and which at the present time are not far removed from those of twenty-five years ago. A highly important step, however, has been made in providing Maternity Homes, and Ante-natal and Post-natal Clinics, as it has been demonstrated that a large proportion of the accidents which occur during pregnancy and child-birth can be successfully forestalled and prevented if the patient is under medical supervision previous to her confinement. Means can also be taken at the Post-natal Clinics to assist in restoring the mother to her normal health. The expansion of these arrangements, which are now becoming widely known and extensively adopted, should assist materially in reducing the preventable deaths of women during child-birth, and reduce not only the preventable deaths, but also the sickness amongst women caused by unskilful or neglectful midwifery.

During the year the Carnegie Welfare Centre was opened on behalf of the Trustees of the Carnegie United Kingdom Trust, the donors of the building, by Miss Haldane, one of the Trustees.

The building, which is conveniently situated close to the University School of Hygiene, the Royal Liverpool Children's Hospital and the new Maternity Hospital will provide accommodation for Pre-Maternity and Infant Welfare Clinics, together with various auxiliary work, such as classes for mothers in cookery, sewing, and house work. In the upper floors of the building there are observation wards, with 12-15 cots, to which infants who are suffering from minor dietetic troubles can be admitted and kept under observation and treatment. On the third floor are the quarters for the resident staff.

The building is well equipped, and will be a most valuable addition to the Maternity and Child Welfare Institutions of the City.

One cannot dissociate from child welfare work the equally important one of the health of the school child, and although every effort is made to co-ordinate the work of the two authorities concerned, there is good ground for the belief that closer amalgamation will be beneficial both to the children and to the service.

Under one body, the fusion of control of activities designed with the object of improving the welfare of motherhood, and childhood up to the end of school age, would be attended with many advantages which may be summarised as follows :—

(1) Convergence of aim, with comprehensive instead of departmental views.

(2) A large saving of money would result, as the same staff of doctors and nurses and the same premises could be utilised—a saving in capital outlay and running expenses.

Under such a Scheme the school doctors and nurses would be available for attendance at Baby Clinics, Day Nurseries and Nursery Schools, as well as the elementary schools. Records of all defects and illnesses would be kept in the various Infant Welfare departments, and subsequently transferred to the School departments. Incidentally the increased scope of work would make the School Medical Officer's work more interesting and varied, whilst less frequent changes in the staff would result in increased efficiency.

The preventive measures adopted for further protecting child life have been fully dealt with in Special Reports made to the Health Committee by the Medical Officer of Health.



CARNEGIE WELFARE CENTRE.—SOUTH ASPECT OVERLOOKING THE GROUNDS.



CARNEGIE WELFARE CENTRE.—WAITING HALL FOR MOTHERS.



CARNEGIE WELFARE CENTRE.—NURSERY FOR CHILDREN ATTENDING THE CLINIC.



CARNEGIE WELFARE CENTRE.—OBSERVATION WARDS FOR INFANTS.

The question of treatment at Maternity and Child Welfare and School Clinics having been brought before the City Council by the suggestion that treatment was afforded to children whose parents were able to pay a private medical practitioner, it was fully explained that the practice in regard to School Clinics has been that on any defect requiring medical attention in a school-child being found by the School Medical Inspectors, a printed notice is handed or sent to the parent, stating its nature, and recommending that a doctor should be consulted without delay. A separate printed notice is issued in regard to each defect, whether for diseased tonsils and adenoids, defective vision, or other important matter.

If the parents are necessitous they fill up a declaration to the effect that they are unable to provide the necessary treatment.

In April, 1919, the Education Committee, after careful deliberation, decided to abandon the system whereby parents were required to pay in accordance with a wages and family scale, and adopted a fixed uniform charge for the treatment of defective vision, diseased tonsils and adenoids, and ringworm, payment being made outright or by weekly instalments. No charge is made in the case of the ear clinic. The staff engaged in enquiring into these cases is a thoroughly experienced, practical, and reliable one, but although the enquiries as to means of the parents are stringent, yet possibly, amongst the 150,000 children concerned, cases of abuse may have crept in, although the Committee are unable to trace any.

The Minor Ailments Clinics were instituted to relieve the poorest children from suffering, and loss of attendance at school, which arise from neglected septic and contagious sores, inflamed eyes, discharging ears, chilblains, cuts, and small injuries which would otherwise be neglected unless the children happened to live near a dispensary. The vast majority of these children are necessitous in every sense of the word, and it would be impracticable to wait for days or weeks to see if the parents would take the children for treatment elsewhere, because in the meantime the ailments, though minor to begin with, would tend to become more serious every day treatment was delayed. In the course of a year these patients number many thousands. It will be appreciated that the hospitals and dispensaries are not anxious to treat these cases, but large numbers are dealt with by the Child Welfare Association.

The use of the Minor Ailment Clinics is practically limited to the necessitous children attending schools in the poorer quarters of the City.

With regard to the administration of the Maternity and Child Welfare Centres, the doctors employed are, with one exception, practitioners in the City, and they are fully competent. Treatment is not the object of the Ante-natal and Welfare Clinics. The object is to ascertain that the infant is well, and to keep it so by proper instruction and help to the mother. In the case of the Ante-natal Clincs the object is to ensure that the pregnancy is proceeding normally, and to guard against and forestall harmful developments. In either case, if defects are found, the patients are sent elsewhere for treatment; to the doctor if they are able to afford payment. Minor treatment is the only treatment given at the Centres, much on the lines indicated in regard to the School Clinics, and in no case are they conducted or regarded as out-patient departments of hospitals.

In a great many instances it has been found that doctors who have attended the infants or children referred to them from the Clincs, send them back to the Clinic after treatment, because they realise the advantage of the Clinic from the supervisory point of view.

In a very large proportion of cases the parents fully appreciate the value of the work. There can be no doubt that large numbers of children are sent to doctors who otherwise would not be brought to a doctor until some serious development arises.

From this it would appear that the majority of practitioners regard the Clinics as valuable accessories, and do not, as would appear from the Motion, look upon them as competitors encroaching upon their legitimate sphere of work.

The supply of milk in necessitous cases is invariably made the subject of careful enquiry as to the means of the recipient and her ability to pay. The return made to the Maternity and Child Welfare Sub-Committee fortnightly shews the extent to which recipients are in a position to pay for the milk, ordered on medical grounds, and supplied only on medical certificate. The attention

of the Council was directed to the form signed by the applicant, from which it is perfectly plain that every effort is made to guard against fraud.

It is possible that isolated cases of fraud may arise, but the Committee are unaware of any, although they have offered to investigate closely any case in which suspected fraud is reported to them, and they will continue to investigate any such cases. No such case has been found.

With regard to the actual confinements, about 75 per cent. of births are attended by midwives. The Health Committee have given practical effect to their appreciation of the services which medical practitioners have ungrudgingly given to the poor (but without remuneration) by instituting a carefully adjusted scheme whereby any midwife may call in a doctor should emergency arise, his fee being paid by the Health Committee. These arrangements have been in operation for many years, and the Ministry of Health cordially approved this provision. This system is now virtually applied to the whole country, the Ministry of Health contributing half the cost involved.

One complication in regard to maternity, wholly apart from financial considerations, arises from the conditions prevailing owing to lack of housing accommodation. At the present time many expectant mothers, who are quite able and willing to pay for better housing accommodation, were it available, are sharing with their families a single room in a crowded sub-let house. No one could suggest that cases such as these have not a strong, and even primary, claim upon the Quarry Bank or other Maternity Homes. They are not persons either suitable or willing to apply to the Relieving Officer for relief, but many have, as a matter of fact, sought relief in the well-equipped wards under the control of the Guardians, and have paid for the accommodation.

In all these matters the City of Liverpool is working on the lines now adopted in all up-to-date municipalities in the country, and with the full approval and financial co-operation of the Ministry of Health.

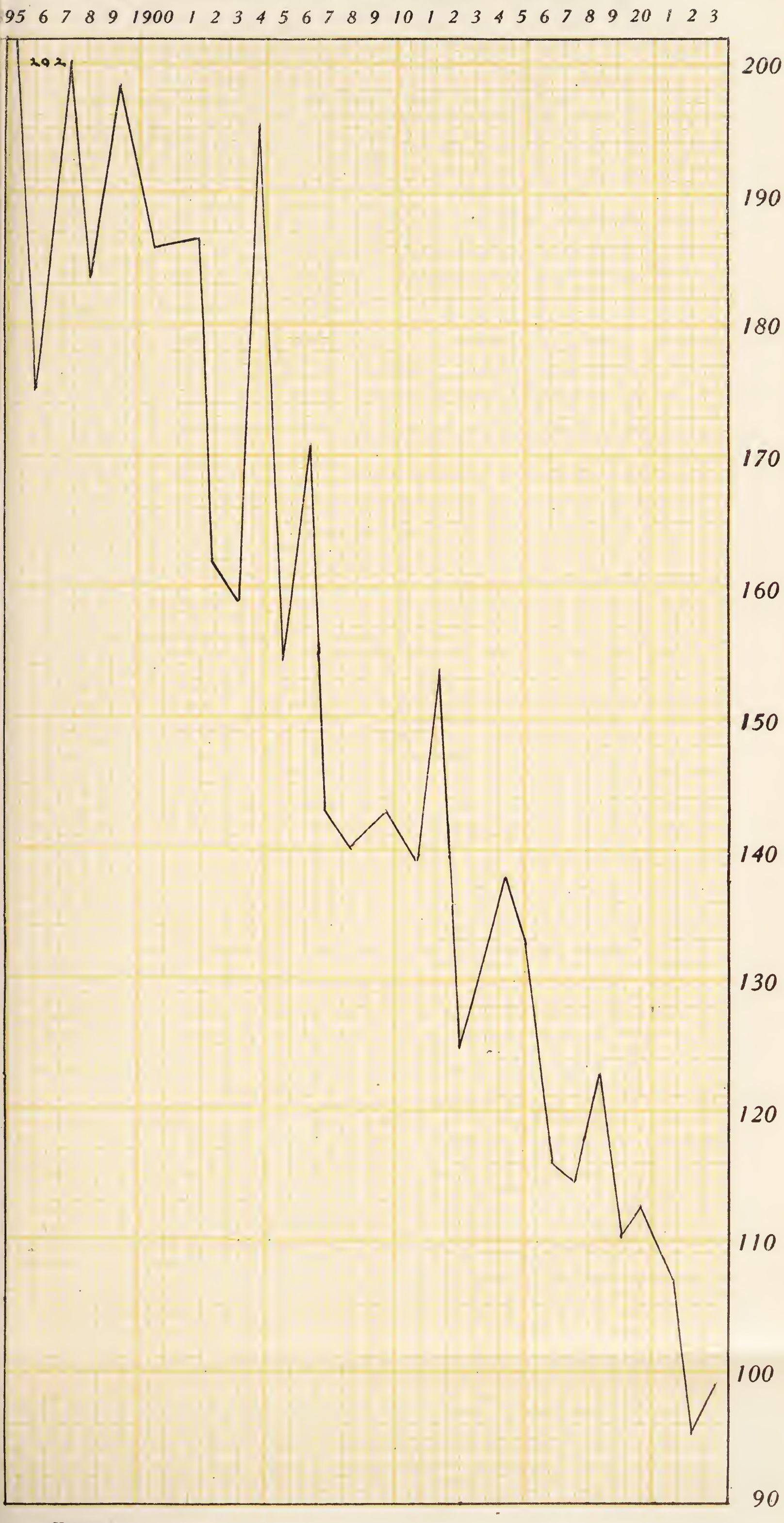
Members of the Health Committee have visited the Centres, have seen the applicants, and have called for and had immediately produced for their inspection the family record of each case, with earnings, debts, number of people to be kept, rent, etc.

The relation which the deaths of infants under one year of age has borne to every thousand births in the various districts of the City during the year 1923, and the average of the previous five years, 1918-1922, is shown in the following table, the detailed causes of death being set out in Table 4 (Appendix).

DISTRICTS.	Number of Births. 1923.	Number of Deaths under 1 year of age. 1923.	Deaths under 1 year per 1000 Births. 1923	Average number of Deaths under 1 year per 1000 Births 1918-1922
Scotland	1,652	211	128	142
Exchange	1,137	180	158	160
Abercromby	1,115	156	139	118
Everton	3,612	362	100	119
Kirkdale	1,851	182	98	121
West Derby (West)	2,327	212	91	105
Toxteth	2,382	303	105	110
Walton	1,603	138	86	80
West Derby (East)	2,058	151	73	85
Wavertree	908	57	63	84
Toxteth—(East)	553	31	56	64
Garston	645	58	90	99
Fazakerley	121	5	41	83
Woolton	231	12	52	78
City	20,695	2,058	99	110

CITY OF LIVERPOOL.

INFANT MORTALITY PER 1000 BIRTHS. 1895—1923

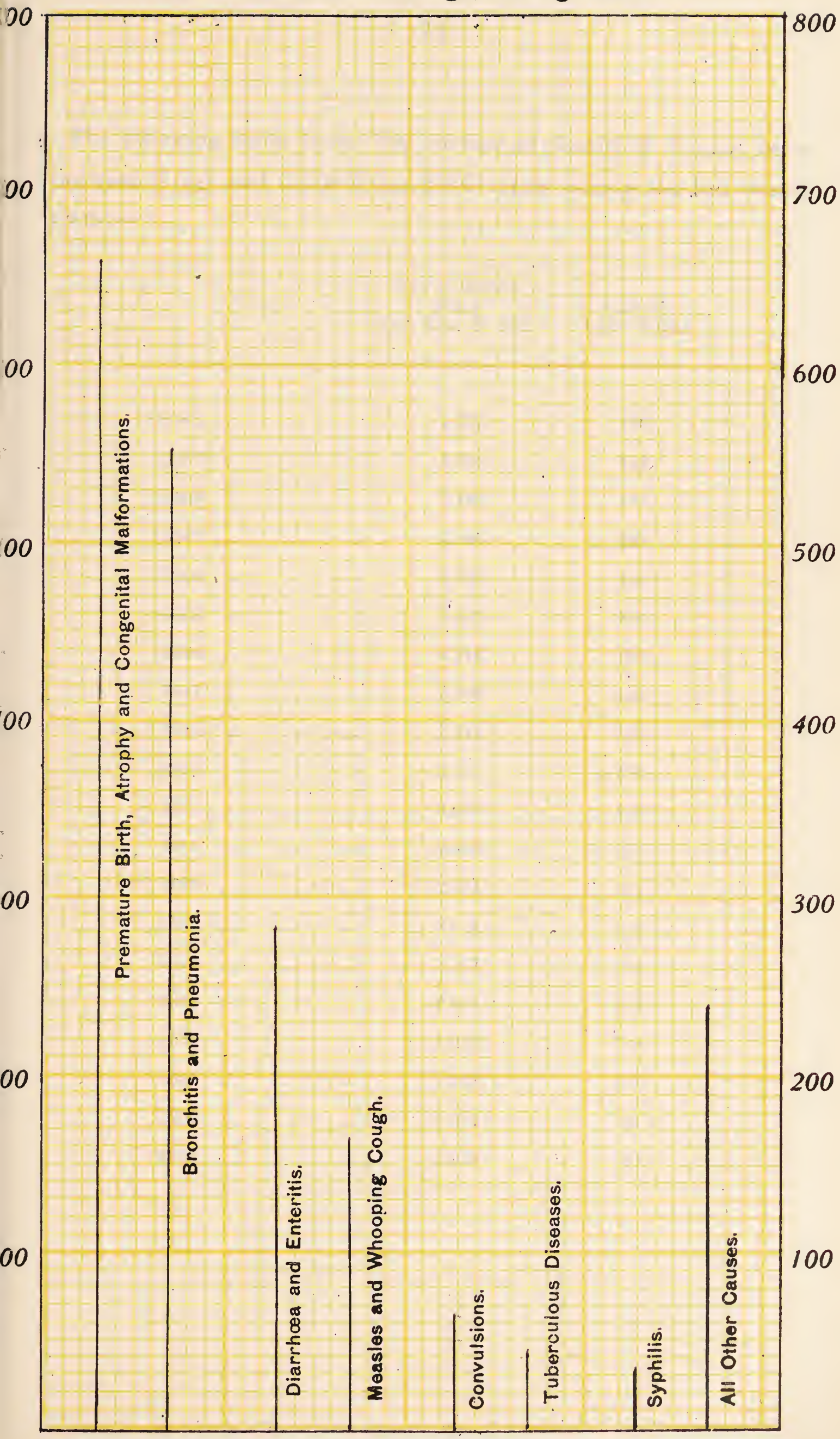


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140
130
120
110
100
90
80
70

CITY OF LIVERPOOL.

Chart shewing the principal Causes of Deaths of Infants, Under One Year of Age, during 1923.



M.61799.Est.



The following table shows the number of deaths of infants below one year of age and the rate per 1,000 births during the last twenty years:—

Year.	No. of Deaths below One Year of Age.	Rate per 1,000 Births.
1904	4,735	196
1905	3,710	154
1906	4,137	171
1907	3,383	143
1908	3,355	140
1909	3,377	143
1910	3,216	139
1911	3,466	154
1912	2,778	125
1913	2,987	132
1914	3,219	139
1915	2,866	133
1916	2,421	117
1917	2,071	115
1918	2,137	124
1919	2,055	110
1920	2,826	113
1921	2,339	107
1922	2,052	96
1923	2,058	99

MIDWIVES ACTS, 1902 AND 1918.

The Midwives Act, 1918, as an extension of the principal Act, came into force on 1st January, 1919, and, under it, the Local Supervising Authority (Health Committee) is required to pay the fee of all medical practitioners called in cases of emergency. This section is the confirmation of the step taken by the City Council in 1904, when a resolution was passed authorising the Health Committee to pay the sum of one guinea in cases of emergency assistance. This has been found to be of the greatest benefit in dealing with cases of difficult midwifery.

During the year 1923, three hundred and one midwives gave the required notice, under Section 10, of their intention to practise midwifery in the City.

A total of 13,953 births was attended by these midwives, and 1,433 by the midwives on the staff of the Ladies' Charity, making altogether 74·0 per cent. of the total number of births registered in the City. So far as can be ascertained there were no births attended during the year by uncertified women.

STATEMENT OF NOTIFICATIONS OF BIRTHS RECEIVED DURING THE YEARS:—

Notifications Received from	1922. Births.	1922. Percentage of Births Registered in the City.	1923. Births.	1923. Percentage of Births Registered in the City.
Certified Midwives	14,323	66·72	13,953	67·42
Medical Attendants.....	1,798	8·38	1,694	8·19
Poor Law Institutions	943	4·40	1,055	5·10
Ladies' Charity — Maternity Hospital...	740	3·50	719	3·47
Ladies' Charity — District Homes	1,400	6·52	1,433	6·92
"Rest Home," Chatham St ...	317	1·48	334	1·61
Other Institutions	54	0·25	30	0·14
Parents	14	0·07	5	0·02
	19,589	91·25	19,223	92·89

Total Number of Births registered in the City	1922 —	21,467
	1923 —	20,695

STILL BIRTHS.

The number of still-births notified during 1923 was 736, of which number 478 were notified by midwives, being at the rate of 3·1 per cent. of the births attended by them.

In no case does a midwife give a certificate of still-birth unless she is present at the time of birth; she is instructed that if the birth should take place before her arrival she must report the matter to the Coroner, who, after enquiry, grants a certificate for the burial of the body.

Enquiries were made into the circumstances of these still-births, and the following are the figures relating to the months of pregnancy during which the still-births took place:—

Sixth month	27
Seventh month	109
Eighth month	82
Ninth month	260
	478

Among the midwives cases there were 105 difficult labours, which were delivered by medical practitioners called in under the Rules of the Central Midwives Board.

Of these, 408 were examined by the City Bacteriologist, and 33, or over 8 per cent., gave a positive reaction, indicating that the cause of the still birth was probably syphilis (see page 215). In these cases every effort was made to induce the patient to undergo treatment under their private medical attendant or at one of the Venereal Diseases Clinics.

The number of visits paid with reference to still-births was 504.

MEDICAL ASSISTANCE.

Under the Rules issued by the Central Midwives' Board, a midwife must advise that medical assistance shall be called in where there is any abnormal circumstance connected with the confinement.

The following table gives the details of the complications for which medical assistance was required during the past two years:—

	1922.	1923.
MOTHER:		
Abnormal Presentation:		
Brow or Face Presentation	30	21
Occipito-posterior Presentation	48	65
Transverse Presentation	44	35
Breech Presentation	39	44
Foot Presentation	8	8
Cord Presentation	34	23
Placenta Prævia	11	12
Deformed Pelvis	34	41
Ante-partum Hæmorrhage	86	69
Post-partum Hæmorrhage	68	64
Retained Placenta or Membranes	129	134
Ruptured Perinæum	362	406
Multiple Births	12	4
Abortion or Premature Birth	57	62
Pyrexia	145	154
Eclampsia	32	10
Obstructed Labour, Uterine Inertia, or requiring Instrumental Assistance	534	583
Influenza	13	6
Various	160	167
CHILD:		
Injury at Birth	5	1
Malformation	32	37
Feebleness and Prematurity	269	240
Skin Eruption	39	85
Ophthalmia	217	192
Other conditions in child	92	69
	2,500	2,532

The number of visits of enquiry with regard to Accounts for Emergency Assistance during the year was 2,504.

PUERPERAL FEVER.

The number of cases of Puerperal Fever notified to the Medical Officer of Health during the year was 43, of which 16 proved fatal. This gives a death-rate of 0·77 per 1,000 births in the City.

Twenty-nine cases were removed to hospital, viz. :—5 to Brownlow Hill Infirmary; 7 to Mill Road Infirmary; 16 to Walton Institution; and 1 to City Hospital, Fazakerley.

After the usual enquiries were made, 27 cases (of which 6 died) were found to have occurred in the practice of midwives. The number of visits paid in this connection was 49.

The following table shows the annual rate of mortality per 1,000 of the total births since the year 1916 :—

Year.	Total number of births in the City.	Total number of :—		Death rate per 1,000 births.	Removed to Hospital.
		Cases.	Deaths.		
1916	20,679	52	22	1·06	38
1917	17,906	33	16	0·89	21
1918	17,133	28	16	0·93	23
1919	18,694	55	20	1·07	37
1920	25,039	69	36	1·49	50
1921	21,904	60	34	1·55	50
1922	21,467	60	33	1·54	55
1923	20,695	43	16	0·77	29

ROUTINE VISITS TO MIDWIVES.

Rule 25 laid down by the Central Midwives Board states as follows:—"The Local Supervising Authority shall make arrangements "to secure a proper inspection of the Register of cases, bag of "appliances, etc., of every midwife practising in the district of such "authority, and when thought necessary, an inspection of her place of "residence, and an investigation of her mode of practice."

For this purpose three fully trained Female Inspectors have been appointed, all of whom hold the certificate of the Central Midwives Board. During the year, 3,324 visits were paid to the homes of practising midwives for the purpose of inspection, and for special enquiries relating to their work.

The midwives of the City are, with very rare exceptions, fully trained women. They have for many years been encouraged by the Medical Officer of Health to form themselves into an Association, which, year by year, has become numerically stronger, and that Association embraces nearly all, if not quite all, of the midwives in the City. The great advantage of this is, that the midwives as a body are now closely linked up with sanitary administration, and they themselves, as well as their patients, derive considerable advantage from this. For example, they arrange for themselves special courses of instruction, at which they receive much help (from lectures and in other ways) from the gynaecologists of the City.

The adoption of the Notification of Births Act, which renders it obligatory on the part of the medical attendant or midwife, as well as the father of the child, to notify the occurrence of a birth, has been a very valuable aid to the working of the Midwives Act.

MATERNITY AND REST HOME.

In the early part of 1920 the Maternity and Rest Home which was provided and equipped by the Maternity and Child Welfare Sub-Committee, aided by the generosity of the American Red Cross Society and the Stanley Rogers Memorial Committee, was opened.

It consists of two wards, together with an emergency ward and an isolation ward, containing 15 beds in all. It is intended to provide accommodation for women whose physical condition or home circumstances make it very desirable that they should have rest and care before, during, or after their confinements. It has proved to be of immense benefit in this way, and has been very much appreciated by those who have been received into the Home.

PATIENTS ADMITTED.

	1922.	1923.
Ante-natal cases	41	41
Confinements	131	175
Post-natal cases (8—8 with infants) ...	15	10

OPHTHALMIA NEONATORUM.

INFLAMMATION OF THE EYES OF THE NEWLY-BORN.

The definition adopted for the purposes of dealing with this disease is the expression used in the Rules issued by the Central Midwives Board, governing the practice of midwives, namely (in the section relating to the child) "Inflammation of, or discharge from, the eyes, however slight." A considerable number of the cases enumerated below are extremely mild, but it is so difficult to draw a line between "slight inflammation" and definite Ophthalmia Neonatorum that it is considered advisable to include inflammation of all degrees of severity in the term "Ophthalmia Neonatorum."

The following figures give some details as to the sources of information and character of the cases dealt with during the year:—

The total number of cases brought to the notice of the department, 757.

(1) Reported by Doctors	61
(2) ,, from Hospitals	18
(3) ,, by Midwives	505
(4) Discovered by Inspectors	170
(5) Reported by Parents	3–757

The above consisted of:—

(1) Mild cases	520
(2) Severe cases	181
(3) Under private treatment	6–707
(4) Not Ophthalmia Neonatorum	50

Number treated in their own homes under special nurse	509
,, attended at Hospital as out-patients ...	137
,, admitted into Hospital	55
,, treated by Doctors and Private Nurse ...	6–707

INTERVAL IN DAYS BETWEEN BIRTH AND ONSET OF DISEASE.

Days.	1	2	3	4		6	7	8	9	10 days and over.	Total.
Notified Cases during 1923	38	63	123	75	74	40	67	52	46	130	707

Arrangements have been made with the City Bacteriologist to examine the discharge in every notified case of inflamed eyes in the newly-born. This enables a prompt verification of the disease to be determined.

No. of Notifications.	Cases from which Specimens were Examined by City Bacteriologist.	No. of Cases Positive Gonorrhoea.	Percentage to Total Cases Examined.	Percentage to Total Notification.
708	58	15	25·8	2·1

TABLE SHEWING INFECTION OF EYES AT ONSET.

Both Eyes.	Right Eye.	Left Eye.	Doubtful.	Total.
521	96	82	8	707

In the 82 cases where the left eye only was affected at onset the other eye became affected in 2 cases.

The total number of visits and revisits paid in respect of the above cases was 6,567.

A very important part of the Scheme for dealing with this disease is the provision at St. Paul's Eye Hospital of 10 beds and cots for the reception of infants with their mothers, where the former can be under the immediate care of Ophthalmic Surgeons and Nurses during the acute stage of the disease.

From the statistical table it will be seen that 55 babies were admitted with their mothers. The average stay in hospital was 23 days.

RESULTS.

Number of cases under treatment at 1/1/23	...	42	
,, ,, notified during year 1923	...	707	
		——	749
Number of cases cured	... ...	707	
,, in which damage to sight resulted (see below).	...	3	
,, died during treatment	... ...	9	
,, under private treatment	... ...	6	
,, in Poor Law Institutions	... ...	—	
,, removed to other towns	... ...	2	
,, under treatment 31/12/23	... ...	21	
,, unable to trace	... ...	1	749

One case in which the sight of the left eye was slightly damaged.

Two cases in which the sight of one eye was lost, the sight of the other eye being unaffected.

The results in these cases were chiefly due to congenital weakness in the infants or delay in bringing the disease under proper treatment.

INFANT WELFARE CENTRES AND MILK DEPOTS.

The total number of persons supplied with milk during the year was 15,659, viz., 4,248 on the books at the beginning of the year, and 11,411 admitted during the year. The following statement shows the different centres and the number supplied at each, viz. :—

Centres.	Ante-Natal.	Nursing Mothers.	Infants	Liverpool Child Welfare Association.	Totals.
Netherfield Road ...	113	656	781	679	2,229
Earle Road ...	57	267	527	272	1,123
Park Road ...	180	446	665	471	1,762
Boaler Street ...	110	316	397	404	1,227
St. Anne Street ...	160	602	554	718	2,034
Rathbone Road ...	11	86	132	105	334
Mill Street ...	57	198	235	99	589
Agents	51	283	517	1,262	2,113
	739	2,854	3,808	4,010	11,411

The total quantity of milk supplied during the year was 188,472½ gallons, and the bottles prepared reached a total of 1,087,820.

Total cases on books, January 1st, 1923	4,248
,, ,, admitted during 1923	11,411
Total supplied during 1923	15,659
Remaining on the books at the end of the year ...	4,007
Quarterly Average—January, February, March	4,539
,, ,, April, May June	4,699
,, ,, July, August, September	4,455
,, ,, October, November, December ...	4,129

The highest number being supplied with milk at one time was 4,837, during the week ending March 24th.

The number of attendances of infants at the Centres during the year for weighing and advice, etc., was 26,360.

The number of visits paid during the year to children in their own homes by the Inspectors attached to the Centres in order to see that the children were being properly fed and cared for was 6,005.

DRIED MILK.

The infants fed on dried milk during the year were 1,989, of whom 1,415 were admitted during the year.

The number remaining on the books at the end of the year was 573.

The quantity of dried milk used was 64,045¾ lbs.

HEALTH VISITORS.

The work of the Health Visitors continues on the same lines as in former years, and owing to the prevailing industrial and economic conditions, increasing spheres have been found for their usefulness.

Their duties are numerous, as a subsequent table will show, and, although the work is varied, it is primarily educational and preventive.

The City is divided into districts, to each of which certain Health Visitors are allocated. This arrangement facilitates the carrying out of the work.

The routine work of the Staff includes the following :—

Visiting under the Notification of Births Act.

Attendance at Clinics for expectant mothers and home visiting of these cases.

At the Ante-natal Clinics, cutting out, sewing and knitting classes are held to enable and encourage the mothers to make suitable provision for themselves and their expected infants. The classes are well attended by the mothers.

Attendance at Clinics for children from birth to five years of age, visiting of these children and instruction to mothers in their own homes.

Attendance at School Medical Inspections and following up in the home cases of physical defects and neglect found by the medical inspector.

Attendance at minor ailments clinics.

Attendance at Eye, Ear, Dental, Ringworm, Tonsils and Adenoids Clinics.

Visits to neglected and verminous school children and ensuring the cleansing of verminous children.

Visits to infectious school children (infectious skin diseases).

Care of cases referred from the various Voluntary Organisations, *e.g.* :—

Child Welfare Association.
Police.
Prisoners of War Fund.
Relieving Officers.
Liverpool Society for Prevention of Cruelty to Children.
Personal Service Committee.
Society for the Care of the Mentally Deficient.

Re-visits to Phthisis cases amongst women and children.

Visits to cases and home nursing of Measles, Whooping Cough, Influenza, Pneumonia and Infantile Diarrhœa.

In addition to the duties enumerated above, the Health Visitors have given valuable assistance to the Housing Department in investigating the conditions of those applying for houses, so that the most pressing cases should receive priority.

Good work is still being done in co-operation with the Tuberculosis Department, by specially qualified Visitors, for discharged soldiers and sailors suffering from Tuberculosis, especially with reference to their housing, surroundings and treatment.

The visits paid to expectant mothers during the year were as follows :

First visits	3,392
Total visits	5,048
Attendances at Ante-Natal Clinics—New cases ...	4,401
Total number of attendances during the year ...	22,026

NOTIFICATION OF BIRTHS ACTS, 1907 AND 1913.

No. of Births notified during the year	19,223
No. of Births visited during the year	18,960
Percentage visited during the year...	98
Re-visits of Births during the year	42,286
,, to Infants up to 5 years of age	19,536

The following figures give the attendances, condition, and feeding of children on admission to those Post-Natal Clinics which are under the control of the Health Committee :—

INFANT CLINICS.

	1922.	1923.
Admissions for year	5,986	6,095
Age on admission—		
Under 1 month old	1,909	1,797
From 1 to 3 months old	2,211	2,566
From 3 to 6 months old	802	741
From 6 to 12 months old	507	450
Over 12 months old	557	541
Condition of Health on Admission—		
Good	3,836	3,801
Fair (under average)	1,498	1,591
Delicate	652	703
Method of Feeding on Admission—		
Breast fed entirely	3,766	3,836
Partly breast fed	580	570
Artificially fed entirely	1,640—2,220	1,689—2,259
Artificial Method adopted—		
Cows' Milk...	324	345
Prepared or sterilized milk ...	135	89
Dried milk	748	743
Condensed milk	331	395
Patent foods	151	156
Ordinary foods	531—2,220	531—2,259
*Treatment given on admission—		
Advisory	1,800	1,997
Minor Medical	4,186	4,098
Referred to Medical Practitioners, Hospitals, etc.	273	305
Total attendances for year	85,928	85,347
Attendances under 1 year	64,550	61,459
Attendances from 1 to 3 years	18,275	20,866
Attendances from 3 to 5 years	3,103	3,022
Attendances of mothers at classes ...	4,063	5,364

There are additional Clinics organised by Voluntary Agencies, which carry on very valuable work on the same lines.

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* The work of the Clinic is mainly preventive, only minor ailments being treated. Cases found to be suffering from any condition requiring further treatment are referred either to Private Practitioners, Hospitals or Dispensaries. In many cases the early diagnosis of ailments together with the necessary treatment, has given good results which could not otherwise have been obtained.

DAY AND RESIDENT NURSERIES.

In Liverpool there are eight Day Nurseries, seven of which are under the control of the Corporation, with accommodation for 390 children. Children from the age of 3 weeks to 5 years are admitted to the Day Nurseries between the hours of 7 a.m. and 7 p.m.

A daily charge is made for each child.

At certain of the Nurseries, children may be boarded for short periods to tide over special difficulties in the homes, such as illness of the mother, etc.

These Institutions are much appreciated by the working-class mothers in times of sickness, or when, by reason of widowhood or incapacity of their husbands, they are compelled to go out to work in order to make provision for themselves and their families.

The Nurseries provide a training school for Nursery nurses and an excellent preliminary training for girls wishing to train later as Hospital Nurses.

The children who attend are taught clean and orderly habits, and their diet, play and rest are carefully supervised.

The Day Nurseries are situated as follows :—

	Attendances
1.—264, Westminster Road	9,003
2.—18, Gt. George Square	7,721
3.—407, Edge Lane (day and resident)	10,744
4.—141 and 143, Smithdown Lane	8,676
5.—Banks Road, Garston	7,960
6.—87, South Hill Road	7,130
7.—63, Everton Road	9,139
8.—61, Shaw Street	7,200

The total number of children admitted into the Resident Nursery at Elms House from January to December, 1923, was 103.

50 were admitted as their mothers were about to be confined.
25 ,, ,, mothers were undergoing operations.
6 ,, ,, mothers were going into Convalescent Homes.
10 ,, ,, mothers were going into Sanatoria.
2 ,, ,, mothers were deceased.
5 ,, ,, mothers were ill at home.
1 was admitted as the mother had met with an accident.
1 ,, ,, mother had abandoned it.
1 ,, ,, mother was away from home.
1 ,, ,, mother was in an asylum.
1 ,, ,, mother was in service.

LIVERPOOL CORPORATION ACT, 1921.

REGISTRATION OF LYING-IN-HOMES.

The Liverpool Corporation Act, 1921, Part 28 (Lying-in-Homes), came into operation on 1st April, 1922.

During the year 1923, 16 applications were received by the Town Clerk. After careful investigation of the practice and premises 15 of these applications were approved by the Health Committee. There were also 6 registrations cancelled owing to transfer or removal, leaving 62 on the register at the end of the year.

Number of Rooms registered in the 62 Homes containing 169 beds	131
Additional rooms registered in cases of emergency	20
In 3 registered Lying-in-Homes an additional bed was allowed in an emergency	3
Number of Live Births which took place in the above Homes	441
,, Still-Births ,, ,, ,, ...	8
,, Legitimate Births ,, ,, ,, ...	387
,, Illegitimate Births ,, ,, ,, ...	62
,, Twin deliveries ,, ,, ,, ...	2
,, Deaths of children ,, ,, ,, ...	7

The number of visits paid to the Lying-in Homes during the year was 300.

INFECTIOUS DISEASE IN SCHOOLS.

Measles is, next to Influenza, the most serious epidemic disease which affects school children. In the commencement of the second quarter of the year it became clear that Measles was rapidly increasing in the City, the Infants' Departments of the schools being, as would be naturally expected, principally affected, and by the end of the quarter it had become necessary to close 20 Infants' Departments for this reason, after careful investigation of the circumstances by the Assistant Medical Officer, as against 5 in the preceding quarter. A recrudescence of Measles occurred in the fourth quarter, necessitating the closure of a further 8 Infants' Departments.

Whooping Cough was not prevalent to any extent, and only four schools were seriously affected, in two cases an outbreak of Measles coexisting.

Mumps was very prevalent throughout a great part of the year. In only seven instances was it found necessary to close schools on account of diseases other than Measles or Whooping Cough.

Scarlet Fever necessitated visits to eleven schools owing to its prevalence in one or more classes; in most instances examination by the Assistant Medical Officer led to the detection of children in whom evidence was found of a recent mild attack of the disease. These children were all excluded and kept under observation in their homes, and in most instances this led to a cessation of the outbreak; in no case was school closure called for.

No school outbreak of Diphtheria occurred during 1923.

The number of school cases reported during the year were :—Measles, 5,519; Whooping Cough, 1,267; and Scarlet Fever, 1,300, as compared with Measles, 4,812; Whooping Cough, 1,301; and Scarlet Fever, 1,194, in 1922.

PUBLIC ELEMENTARY SCHOOLS.

	1923.
Number of Visits to Schools	3,299
,, found incorrect	75
,, of Notices issued *re* defects	65

NOTICES TO SCHOOL TEACHERS.

The arrangements have been continued with the Education Committee that notice shall be sent to the Education Department and postcards to the Head Teachers of the various schools informing them when children from infected houses attend their schools; 8,663 cards were sent during the year, as against 6,489 in the preceding year.

TUBERCULOSIS.

SANATORIA.

The following Institutions were utilised to accommodate cases of pulmonary and non-pulmonary tuberculosis during the year:—

SANATORIA:—Fazakerley, Highfield, Parkhill, Delamere, Delamere Training Colony, the West Kirby Children's Convalescent Home, the Ellen Gonner Home, Freshfield, and Thingwall Hall.

HOSPITALS:—The Royal Infirmary; the Royal Southern Hospital; the David Lewis Northern Hospital; the Stanley Hospital; the Liverpool Hospital for Children, Leasowe; the Royal, Liverpool Children's Hospital; the Royal Liverpool Country Hospital, Heswall; the Liverpool Chest Hospital; and the Crofton Hospital.

Occasional use was made of a few outside Sanatoria when for some special reason treatment away from Liverpool appeared desirable. These outside Sanatoria included Daneswood, Middleton-in-Wharfedale, Benenden, St. Luke's Home, Ventnor, Preston Hall, Papworth, Burrow Hill, and Maltings Farm. The admissions to these outside Institutions during the whole year numbered ten, a very small proportion of the 1,769 patients admitted for institutional treatment during the year.

The Fazakerley, Highfield and Parkhill Sanatoria are situated within the City boundary, and are equipped and administered by the Hospitals Committee. Their accommodation and staff at the end of the year were as follows:—

FAZAKERLEY SANATORIUM—Beds 311.

Medical Superintendent—Dr. C. Rundle.
Principal Resident Medical Officer—Dr. W. Crane.
Consulting Surgeon—Mr. J. T. Morrison.
Visiting Dental Surgeon—Dr. R. J. Erskine Young.
Three Assistant Resident Medical Officers.
Matron, Sisters, and Nursing Staff—55.
Normal allocation of beds.

	Observation.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases	"Advanced" Cases	Disease of Bones and Joints.	Other Conditions	
Adult Males ...	6	67	37	15	15	140
Adult Females ...	4	45	15	10	3	77
Children under 15	6	51	4	15	18	94
TOTAL ...	16	163	56	40	36	311

HIGHFIELD SANATORIUM—Beds 320.

Medical Superintendent—Dr. H. R. MacIntyre.
Four Assistant Resident Medical Officers.
Matron, Sisters, and Nursing Staff—61.
Normal allocation of beds.

	Observation.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases	"Advanced" Cases	Disease of Bones and Joints.	Other Conditions	
Adult Males ...	—	120	80	—	—	200
Adult Females ...	—	72	48	—	—	120
Children under 15	—	—	—	—	—	—
TOTAL ...	—	192	128	—	—	320

PARKHILL SANATORIUM—Beds 100.

Medical Superintendent—Dr. W. Hunter Brown.
One Assistant Resident Medical Officer.
Matron, Sisters, and Nursing Staff—20.

Normal allocation of beds.

	Observation.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases	"Advanced" Cases	Disease of Bones and Joints.	Other Conditions	
Adult Males ...	—	20	20	—	—	40
Adult Females ...	—	10	10	—	—	20
Children under 15...	—	30	10	—	—	40
TOTAL ...	—	60	40	—	—	100

The remaining Institutions named in the opening paragraphs are responsible for the balance of the beds in use, namely, 244. The normal total accommodation for tuberculosis consists of 975 beds, which are allocated in the following manner:—

TOTAL NUMBER OF BEDS NORMALLY AVAILABLE FOR PATIENTS.

	Observation.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases	Disease of Bones and Joints.	Other Conditions	
Adult Males ...	6	227	142	19	19	413
Adult Females ...	4	137	78	14	7	240
Children under 15...	6	115	14	130	57	322
TOTAL ...	16	479	234	163	83	975

The extent of Residential Treatment afforded during the year is shown in Table I.

TABLE I.

	In Institutions on Jan. 1st.	Admitted during the year.	Discharged during the year.	Died in the Institutions.	In Institutions on Dec. 31st.
NUMBER OF PATIENTS :—					
Adults—Male	401	738	550	181	408
Female... ...	199	473	363	109	200
Children*—Male ...	167	268	230	26	179
Female ...	193	290	263	41	179
TOTAL	960	1,769	1,406	357	966

* Under 15 years of age.

The immediate results of the treatment of patients discharged from Residential Institutions during the year is shown in Table 11. The meanings of the terms used to describe the classification of the patients suffering from tuberculosis, and the description of their condition, is in accordance with the suggestions of the Minister of Health in draft memorandum 37/T. These terms were fully defined in the Annual Report for 1922, and the following description is a brief resumé :—

CLASSIFICATION OF PATIENTS SUFFERING FROM TUBERCULOSIS.

(i) All patients are grouped according to their sex and age; patients under 15 years of age are classed as children, and those above that age as adults.

(ii) Patients are also classified according to the organs or parts affected, as follows :—

(*a*) Pulmonary Tuberculosis (including tuberculosis of the pleura and intra-thoracic glands).

(*b*) Non-pulmonary Tuberculosis.

Patients suffering from both pulmonary and non-pulmonary tuberculosis are classified as pulmonary cases.

(iii) Patients suffering from pulmonary tuberculosis are divided into :—

Class A., viz., cases in which tubercle bacilli have never been demonstrated in the sputum.

Class B., viz., cases in which at any time tubercle bacilli have been found.

Class B cases are sub-divided into three groups, namely, group 1, presenting early lesions; group 3, presenting advanced lesions or complications of prognostic gravity, and group 2, including all remaining sputum positive cases.

(iv) Patients suffering from non-pulmonary tuberculosis are classified according to the site of the lesion, as follows :—

(*a*) Tuberculosis of bones and joints.

(*b*) Abdominal tuberculosis (*i.e.*, tuberculosis of peritoneum, intestines, or mesenteric glands).

(*c*) Tuberculosis of other organs.

(*d*) Tuberculosis of peripheral glands.

Patients suffering from multiple lesions are classified in one sub-group only, viz., in that applicable to the case which stands highest in the above Table.

Results of Treatment.

(v.) "Disease Arrested."—Cases which have been "quiescent" for at least two years.

(vi.) "Quiescent."—Cases which have no symptoms of tuberculosis and no signs of tuberculous disease, except such as are compatible with a completely healed lesion, and in which sputum, if present, is free from tubercle bacilli.

(vii.) "Much Improved."—Cases short of "quiescent," in which (1) the general health is good; (2) working capacity is more or less restored; and (3) the symptoms of tuberculosis are materially diminished, and there is no extension of the physical signs.

(viii.) "No Material Improvement."—All other patients who are alive.

TABLE II.

Return showing the immediate results of treatment of patients discharged from Residential Institutions during the year:—

Classification on Admission to the Institution and Condition at time of Discharge.	Duration of Residential Treatment.												Total
	Under 3 months.			3—6 months.			6—12 months.			More than 12 months.			
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Pulmonary Tuberculosis:—													
Class A.—													
Quiescent	4	8	29	7	15	39	6	4	15	2	7	7	143
Much improved	22	18	14	28	12	6	13	12	11	5	5	22	168
No material improvement ...	50	42	18	17	11	6	12	7	2	9	3	6	183
Died in Institution	9	7	12	—	3	—	3	1	—	4	—	1	40
Class B, Group 1—													
Quiescent	2	1	1	5	4	1	4	2	—	—	1	—	21
Much improved	10	3	3	14	8	—	7	8	1	8	1	1	64
No material improvement ...	41	18	1	22	6	—	15	9	—	4	4	—	120
Died in Institution	21	11	2	10	5	1	9	1	1	2	2	—	65
Class B, Group 2—													
Quiescent	1	—	—	3	2	—	1	2	—	—	—	—	9
Much improved	11	3	—	12	7	—	8	8	—	5	1	—	55
No material improvement ...	42	26	—	25	11	—	14	4	—	11	5	—	138
Died in Institution	31	17	—	9	4	—	9	5	—	7	3	—	85
Class B, Group 3—													
Quiescent	—	—	—	—	—	—	1	—	—	—	—	1	2
Much improved	1	—	—	5	1	—	2	2	—	1	—	—	12
No material improvement ...	13	14	—	10	1	—	7	3	3	5	1	—	57
Died in Institution	35	29	2	8	8	2	6	3	—	9	3	6	111
Non-Pulmonary Tuberculosis:													
Bones and Joints—													
Quiescent	2	2	4	—	—	3	—	1	16	1	1	31	61
Much improved	13	9	12	1	1	1	2	—	2	3	1	6	51
No material improvement ...	3	8	12	2	1	—	1	—	2	1	—	2	32
Died in Institution	1	1	4	1	1	1	1	—	3	4	1	4	22
Abdominal—													
Quiescent	—	1	6	—	—	9	—	—	10	—	—	6	32
Much improved	2	4	22	—	1	10	—	—	1	—	—	—	50
No material improvement ...	—	2	30	—	1	1	—	—	—	1	—	1	36
Died in Institution	2	2	12	—	—	1	—	—	1	—	1	—	19
Other Organs—													
Quiescent	2	1	1	—	—	1	—	—	1	1	—	—	7
Much improved	3	1	6	1	—	—	—	—	—	1	—	—	12
No material improvement ...	1	—	1	1	—	—	1	—	—	—	—	—	4
Died in Institution	—	1	14	—	—	—	—	—	—	—	—	—	15
Peripheral Glands—													
Quiescent	—	5	13	—	—	6	—	—	6	2	1	2	35
Much improved	8	18	49	—	—	1	1	—	1	—	—	2	80
No material improvement ...	1	1	9	—	—	1	—	—	—	—	—	2	14
Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—
	Under 1 week.			1—2 weeks.			2—4 weeks.			More than 4 weeks.			
Non-Tuberculous	—	—	—	1	1	3	6	1	4	3	1	—	20
												Total	1,763

THE DELAMERE TRAINING COLONY.

This Training Colony, which was opened in September, 1920, is reserved for the treatment and training of ex-service patients suffering from pulmonary tuberculosis. It is approved by the Minister of Health, both for concurrent treatment and training and for vocational training under the terms of Circular 307. At the end of the year 60 occupied beds were shared by Liverpool, Lancashire and Cheshire. The industries represented are rural carpentry, watch and clock repairing, house repairs, market gardening, and pig and poultry farming. The patients tend to favour training in watch and clock repairs and rural carpentry. A number of men discharged in 1922-23 are now established at work in their own areas.

THE LIVERPOOL HOSPITAL FOR CHILDREN.

This Institution is situated at Leasowe, in the Wirral Peninsula, by the edge of the sea, and affords accommodation for children suffering from non-pulmonary tuberculosis. It is administered by the Liverpool Child Welfare Association, and 145 beds are allocated to Liverpool cases.

The following tables of work during 1923, and reports relating thereto, have been kindly furnished by the Senior Medical Officer, Dr. T Hartley Martin, and indicate the scope and results of the work carried out. Table A classifies the cases into the four non-pulmonary groups already defined, and Table B classifies them according to the localisation of disease.

TABLE A.

	Total Discharged.	Non-Tuberculous.	Tuberculous.	Condition on Discharge.						% of all cases discharged—Disease Quiescent.	% of cases discharged—Disease Quiescent and treated to Completion.
				Disease Quiescent.	Improved.	No material Improvement.	Died.	Transferred.	Removed by Parents.		
Group I ...	72	5	67	52	—	2	8	1	4	77·6%	85%
Group II ...	18	1	17	16	—	—	1	—	—	94%	94%
Group III ...	—	—	—	—	—	—	—	—	—	—	—
Group IV ...	14	—	14	13	—	1	—	—	—	92·8%	92·8%
Totals ...	104	6	98	81	—	3	9	1	4		
			98	81	= 82·6% of all cases treated.						
			93	81	= 87% of cases treated to completion.						

LIVERPOOL CASES DISCHARGED FROM LEASOWE HOSPITAL DURING 1923.

TABLE B.

Lesion.	Totals Discharged.	Non-Tuberculous.	Tuberculous.	Condition on Discharge.						Average Duration of stay in days.	Percentage discharged —Disease Quiescent.
				Disease Quiescent.	Improved.	No material Improvement.	Died.	Transferred to other Institutions.	Removed by Parents.		
Tuberculosis of the Spine ...	18	—	18	11	—	2	2	1	2	911	61%
Tuberculosis of the Hip ...	11	3	8	8	—	—	—	—	—	644	100%
Tuberculosis of the Knee ...	6	—	6	6	—	—	—	—	—	355	100%
Tuberculous Osteitis... ...	37	2	35	27	—	—	6	—	2	393	77%
Tuberculous Adenitis ...	14	—	14	13	—	1	—	—	—	367	92·8%
Tuberculous Peritonitis ...	18	1	17	16	—	—	1	—	—	278	94%
Totals	104	6	98	81	—	3	9	1	4	482	—
Percentages	—	—	98	81	= 82·6% of all cases treated.						
Percentages of cases treated to completion ...	—	—	93	81	= 87% of cases treated to completion.						

These percentages compare favourably with those of the past four years, which have varied from 76 per cent. to 85 per cent. for all cases treated and 85 per cent. to 93 per cent. for cases treated to completion.

The After-Care work in connection with the Liverpool cases discharged year by year is still being carried out through the channels of the Tuberculosis Institutes, and its utility is demonstrated by the early recognition of relapse or recrudescence and the prompt institution of the necessary treatment. The percentage of cases remaining well for

two or three years after discharge is encouraging in spite of the poor home conditions existing in many cases.

Of the 86 cases discharged "quiescent" in 1920, 77 (or 89·5 per cent.) are now fit and well, and of these 61 (or 79 per cent.) of the total number have remained quiescent since discharge.

Of the 90 cases discharged quiescent in 1921, 76 (or 84 per cent.) are fit and well, and of these 73 (or 81 per cent.) of the total number have remained quiescent since discharge.

Of the 77 cases discharged quiescent in 1922, 66 (or 85·7 per cent.) are fit and well, the disease remaining quiescent.

The following table shews the complete history of all the cases discharged from January, 1920, to December, 1922 :—

TABLE C.

Condition when discharged during 1920, 1921 and 1922.	Total Number Discharged.	Condition in December, 1923.					
		Disease Quiescent	Disease Quiescent Re-admitted for Deformity.	Recurred and Re-admitted.	Disease Progressing.	Died.	Not Traced.
Disease quiescent	253	204	15	17	4	5	8
Improved	1	—	—	—	1	—	—
No material improvement ...	13	—	—	1	2	10	—
Died...	16	—	—	—	—	—	—
Transferred to other Hospitals ...	7	1	—	—	5	1	—
Removed by parents	13	7	—	3	2	—	1
Totals	303	212	15	21	14	16	9

It will be noted that 83 per cent. of the total have remained quiescent, and that in 86 per cent. of the cases discharged during 1920 and 1921, the disease may be presumed to be "arrested."

THE SANATORIUM WAITING LIST.

The number of patients waiting to enter a sanatorium at the end of each quarter from 1914 to 1923 is given in Table III. :—

TABLE III.

	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923;
March 31st ...	—	243	330	361	302	441	77	264	17	67
June 30th	—	291	253	442	425	328	131	325	58	135
September 30th	198	389	398	422	430	140	173	171	45	120
December 31st	221	335	389	265	549	163	190	47	65	132

In May, 1921, the Hospitals Committee acquired the use of the Highfield Sanatorium with accommodation for 320 patients.

Between March and June, 1922, the Parkhill Sanatorium accommodation was reduced from 225 beds to 100 beds.

TUBERCULOSIS INSTITUTES AND DISPENSARY SYSTEM.

The details relating to the Staff of the three Tuberculosis Institutes are to be found in the 1921 Annual Report. They remain unaltered except for a reduction in the clerical staff.

A statistical summary of the work of the Institutes in relation to diagnosis is given in Table IV. It is noteworthy that 3,138 new patients were examined during the year. Of these patients 1,154 were judged to be suffering from a disability which was not tuberculous in nature, and no treatment at the public expense was granted in those cases. This rejection rate of 37 per cent. is a measure of the protection of the sanatorium accommodation from wrongful use.

TABLE IV.

Number of	Under observation pending diagnosis on Jan. 1st.	Applying for the first time during the year.	Total.	Found to be			Under observation pending diagnosis on Dec. 31st	Ceased attendance before completion of diagnosis
				Suffering from Tuberculosis.		Not suffering from Tuberculosis.		
				Pulmonary	Non pulmonary			
(a) All persons (including "Contacts")—								
Adults—Males	22	1,035	1,057	598	72	326	16	45
Female	23	878	901	473	85	273	24	46
*Children—Male	17	587	604	140	158	257	23	26
Female	15	638	653	158	144	298	23	30
Total	77	3,138	3,215	1,369	459	1,154	86	147
(b) "Contacts" (included in (a))								
Adults—Male	—	—	56	34	1	21	—	—
Female	—	—	77	35	3	39	—	—
*Children—Male	—	—	78	20	9	49	—	—
Female	—	—	95	22	6	67	—	—
(c) Insured persons (included in (a))								
Male	20	821	841	466	50	280	7	38
Female	11	374	385	182	41	129	13	20

* Under 15 years of age.

DIAGNOSIS.

The chief aids to diagnosis in doubtful cases are:—

(*a*) Examination by X-ray.

(*b*) Continued observation whilst following an ordinary occupation.

(*c*) The repeated examination of the sputum.

(*d*) A period of observation in hospital, if necessary.

A considerable use has been made of examination by X-ray in cases in which there were diagnostic difficulties. During the year 206 cases were so examined, with the result that in 67 cases the evidence was in favour of a tuberculous infection, in 120 cases was against the presence of this disease, and in 19 cases the X-ray evidence was very inconclusive. The result of X-ray examination in conjunction with clinical evidence has enabled the Tuberculosis Officer to overcome diagnostic difficulties in the great majority of the cases which, at first sight, appeared to be doubtful.

The X-ray apparatus used for this purpose is situated at the Fazakerley Sanatorium.

The fact that out of 1,769 admissions to sanatoria and hospitals only 20 patients were considered subsequently to be non-tuberculous, is a sufficient indication that these safeguards are satisfactory in practice. Upon the negative side of the diagnosis question it is uncommon to find old rejected cases returning to the Tuberculosis Officer with undoubted disease of a tuberculous nature.

References of new cases from sources other than under the Notification Act continue to grow in number, and add very materially to the total of new cases examined.

A statistical return showing in summary form the condition of all patients whose case records are in the possession of the Tuberculosis Institutes at the end of the year, arranged according to the years in which the patients first came under public medical treatment, and according to their classification, is given in two tables below, Table V relating to pulmonary cases and Table VI to non-pulmonary cases.

The condition of patients whose case records are in the possession of the Tuberculosis Institutes:—

Condition in 1923.		Cases arising previous to 1922.					Cases arising in 1922.					Cases arising in 1923.				
		Class A	Class B				Class A	Class B.				Class A	Class B			
			Group 1	Group 2	Group 3	Total Class B		Group 1	Group 2	Group 3	Total Class B		Group 1	Group 2	Group 3	Total Class B
Alive.	Disease arrested															
	Adults—Male ...	114	6	—	—	6	1	—	—	—	—	—	—	—	—	—
	Female...	54	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Children—Male ...	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Female.	11	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Disease not Arrested															
	Adults—Male ...	458	187	102	32	321	93	44	39	6	89	231	114	90	17	221
	Female	235	60	29	8	97	95	33	23	9	65	209	54	54	14	122
	Children—Male ...	124	—	1	—	1	43	1	1	—	2	126	3	—	—	3
	Female	112	1	—	—	1	70	—	—	2	2	127	3	4	—	7
Dead :—																
Adults—Male...	...	66*	48	83	233	364*	37	54	72	96	222	39	20	36	48	104
Female	...	31*	27	28	156	211*	31	40	49	65	154	45	22	22	50	94
Children—Male	...	7*	—	2	6	8*	15	1	—	2	3	10	1	—	—	1
Female	...	4*	2	—	7	9*	16	3	—	9	12	19	1	2	1	4
Lost Sight of :—																
Adults—Male...	...	149	22	4	1	27	8	2	—	—	2	1	1	1	—	2
Female	...	71	3	2	—	5	6	—	—	—	—	1	—	2	—	2
Children—Male	...	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Female	...	9	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Total...		1,490	356	251	443	1,050	415	178	184	189	551	809	219	211	130	560

* Deaths occurring on and after January 1st, 1922, only

Note.—Class A cases are those in which tubercle bacilli have never been demonstrated in the sputum. Class B cases are those in which at any time tubercle bacilli have been found.

TABLE VI.—Non-Pulmonary.

The condition of patients whose case records are in the possession of the Tuberculosis Institutes:—

Condition in 1923.	Cases arising previous to 1922.					Cases arising in 1922.					Cases arising in 1923.				
	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total.	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total.
Alive.															
Disease Arrested															
Adults—Male ...	4	—	—	2	6	—	—	—	—	—	—	—	—	—	—
Female...	3	—	—	4	7	—	—	—	—	—	—	—	—	—	—
Children—Male ...	1	2	—	3	6	1	—	—	1	2	—	—	—	—	—
Female ...	2	—	—	1	3	—	—	—	—	—	—	—	—	—	—
Disease not Arrested															
Adults—Male ...	33	7	4	13	57	10	1	3	12	26	37	6	11	13	67
Female	27	7	1	30	65	6	2	—	17	25	25	5	5	38	73
Children—Male ...	27	21	3	24	75	16	26	—	28	70	43	40	8	51	142
Female	21	29	3	20	83	19	10	3	26	58	37	26	6	56	125
Dead :—															
Adults—Male... ...	14	1	2	1	18*	2	5	4	1	12	3	1	—	1	5
Female ...	5	2	3	—	10*	—	1	1	1	3	4	5	1	1	11
Children—Male ...	2	3	3	2	10*	4	7	2	—	13	4	6	6	—	16
Female ...	2	2	1	—	5*	1	9	14	1	25	2	8	8	—	18
Lost Sight of :—															
Adults—Male... ...	5	4	2	3	14	1	—	1	—	2	—	—	—	—	—
Female ...	4	2	1	4	11	1	—	—	—	1	—	—	—	1	1
Children—Male ...	3	—	1	3	7	—	—	—	—	—	—	—	—	—	—
Female ...	2	2	—	2	6	1	—	—	—	1	—	—	—	1	1
Total	155	82	24	122	383	62	61	28	87	238	155	97	45	162	459

It is noteworthy that of 1,369 new pulmonary cases accepted during the year, 341 (25 per cent.) were in a very advanced stage of disease. By the end of the year, 316 (23 per cent.) of the new cases arising during the year were deceased.

Unless the Tuberculosis Officers are given an opportunity of reaching these cases at an earlier stage of illness, there is little hope of providing efficacious treatment.

A statistical summary of the work of the Tuberculosis Institutes relating to dispensary treatment and general supervision, inclusive of "domiciliary" cases, is given in Table VII, and at the foot thereof are included a few statistics of a general nature.

TABLE VII.

DISPENSARY TREATMENT AND GENERAL SUPERVISION (INCLUDING "DOMICILIARY" CASES)

Number of Patients.	PULMONARY				NON-PULMONARY			
	Adults		Children*		Adults		Children*	
	M.	F.	M.	F.	M.	F.	M.	F.
ler Treatment or Supervision on Jan. 1st	1,667	1,040	310	318	123	156	212	207
ing for the first time under Public edical Treatment...	598	473	140	158	72	85	158	144
uming Public Medical Treatment ...	43	35	9	4	5	4	5	6
nsferred from Residential Treatment or om other areas	497	296	62	76	64	67	180	165
TOTAL (1)	2,805	1,844	521	556	264	312	555	522
harged as no longer requiring either reatment or Supervision...	98	47	32	9	6	6	8	1
nsferred to Residential Treatment or to her areas	737	352	99	133	84	69	180	169
ving Public Medical Treatment ...	294	121	26	19	37	40	41	21
t sight of	189	85	10	10	16	13	7	8
d	242	203	10	14	9	7	3	4
naining under Treatment or Supervision n Dec. 31st	1,245	1,036	344	371	112	177	316	319
TOTAL (2)	2,805	1,844	521	556	264	312	555	522

1. Number of persons placed during he year under observation for the urpose of Diagnosis	3,138	6. Number of Visits paid by Tuberculosis Nurses to the Homes of Patients for Dispensary purposes ...	8,204
2. Number of cases in which the eriod of observation exceeded two nonths	Nil	7. Number of Attendances of Patients at the Dispensaries ... ... Insured	6,342
		Uninsured	7,118
3. Number of Consultations with Medical Practitioners at the Homes of he Patients (insured)	10	8. Number of Patients under Domiciliary Treatment at the end of the year	2,959
4. Number of Consultations with Medical Practitioners at the Homes of he Patients (uninsured)	17	9. Number of Reports received in respect of Patients under Domiciliary Treatment	8,574
5. Number of other Visits paid by Tuberculosis Officers to the Homes of Patients	702	10. Number of Specimens of Sputum examined in connection with the work of the Dispensaries	3,889

* Under 15 years of age.

DOMICILIARY TREATMENT.

This form of treatment is arranged by the Tuberculosis Officers in such cases as have been examined by them, and in which it is considered to be the most appropriate form of treatment. Co-operation between the Medical Practitioners and the Tuberculosis Officers is secured in every case by means of a quarterly report from the Practitioners. At the end of the year, 2,959 cases remained under domiciliary treatment.

NURSING AND EXTRA NOURISHMENT.

The domiciliary nursing of both pulmonary and non-pulmonary cases is carried out by the Liverpool Queen Victoria District Nursing Association, with whom the Liverpool Hospitals Committee have an agreement, and to whom they make a grant-in-aid. During the year, 130 pulmonary and 138 non-pulmonary cases were nursed in their houses, and to these cases 14,776 visits were paid.

Extra nourishment was granted by the Tuberculosis Officers to patients who needed it as a part of their treatment and were unable to afford to purchase it for themselves. The nature of the extra nourishment granted, the conditions of a free grant, the terms of renewal and the facilities for supply, are described in the Annual Report for 1921, and remain unaltered.

At the end of the year 207 patients were in receipt of extra nourishment, involving the daily provision of 223 pints of milk and 34 eggs. The corresponding patients at the end of 1921 and 1922 were 206 and 235 respectively.

AFTER-CARE.

The after-care arrangements in force are as follows:—

(1) The periodic examination by the Tuberculosis Officers of all cases under Public Medical Treatment.

(2) Visits paid to patients in their homes by the Nurses attached to the Tuberculosis Institutes, and by the Health Visitors and Sanitary Inspectors employed by the Health Committee.

(3) Visits paid to patients in their homes by the Nurses of the Queen Victoria District Nursing Association.

(4) The reference of cases presenting peculiar difficulties to voluntary associations, such as the Child Welfare Association, the Personal Service Society, and the Central Relief Society, etc.

During the year the Tuberculosis Nurses attached to the Tuberculosis Institutes made 8,204 home visits. The Health Visitors and Sanitary Inspectors made 14,008 home visits. All these visits are the subject of report to the Medical Officer of Health. The home visits of the nurses of the Queen Victoria District Nursing Association, to the number of 14,776, have already been referred to.

CO-OPERATION AND CO-ORDINATION.

The activities of the Tuberculosis Institutes are now so well known that new or suspected cases of tuberculosis are referred for examination and treatment from many sources.

The most important source of reference is the medical profession. It is the practice of the Tuberculosis Officers to give every notified case an opportunity of attending for examination with a view to Public Medical Treatment, and it is encouraging to note that only in occasional cases do patients refuse to be examined. Once patients have been examined they are kept under observation until the disease is arrested or they are deceased, have left Liverpool or cannot be traced. Patients leaving Liverpool are notified to the Medical Officer of Health of the district in which they have gone to reside, and with each notification is sent a report as to their condition, treatment, and fitness or otherwise for employment.

The co-operation between the Ministry of Pensions and the Tuberculosis Officers is maintained, and during the year 2,761 reports were completed in reference to tuberculous pensioners.

The group of Institutions comprising Leasowe, West Kirby Convalescent Home, and the Ellen Gonner Home, are administered by the Child Welfare Association. Close co-operation between this Association and the Tuberculosis Department is maintained. In every case discharged from these Institutions a full report upon discharge is rendered, which is of use to the Tuberculosis Officers in their work of continued supervision. This Association is, moreover, in touch with a large number of children attending the out-patient departments of the various general hospitals, a circumstance which enables them to refer cases to the Tuberculosis Officers when action by the Public Health Department is called for.

Arrangements are in force between the Department and the general hospitals which have been approved for the treatment of tuberculosis by the Minister of Health, namely, the Royal Infirmary, the Royal Southern Hospital, the David Lewis Northern Hospital, the Stanley Hospital, and the Royal Liverpool Children's Hospital, whereby the latter accept for treatment surgical cases and emergency pulmonary cases of tuberculosis at the expense of the Local Authority. It is a condition of payment that (1) prompt notification of admission for treatment be received; (2) the Tuberculosis Officer shall have access to the case when under treatment should he so desire; (3) a full report is rendered upon discharge as to the treatment afforded, the result thereof, and the condition of the patient upon discharge. These arrangements work smoothly and are not abused, and valuable work is in progress.

Co-operation between the Tuberculosis Officers and the School Medical Officers is secured inasmuch as all definite and suspected cases discovered by the School Medical Officer are referred by the latter to the Tuberculosis Officer for examination, treatment and report. It is also

the practice of the Tuberculosis Officers to report to the School Medical Officers their findings in any patient of school age examined. These cross references are very numerous, and during the year the Tuberculosis Officers rendered 2,273 reports to the School Medical Department

NOTIFICATIONS AND DEATHS.

During the year inquiries made into a number of fatal cases of tuberculosis revealed the fact that a considerable proportion took place in cases which had not been notified during the life-time of the patient.

The following Table gives the result of this inquiry in statistical form :—

TABLE VIII.

Total Number of Deaths inquired into.	Number of deaths in cases not previously notified or referred in any other way.	Notifications prior to death, or other references, within the time specified at the head of each column.						Number of these cases known to the Tuberculosis Officer at the time of death.
		Within 2 weeks of death.	Within 2–4 weeks of death.	Within 1–3 months of death	Within 3–6 months of death.	Within 6–12 months of death.	Over 12 months prior to death.	
1,239	278	81	78	166	148	108	380	863

It will be noted that a very considerable proportion of the cases (22·4 per cent.) were not reported until death took place, and an additional 10·3 per cent. were only notified within a month of death. Approximately one-third of the patients dying from tuberculosis, therefore, had no opportunity given to them of making use of the facilities for treatment at the disposal of the Port Sanitary and Hospitals Committee. It will be noted that the Tuberculosis Officers are in touch with all those patients who were notified more than two weeks before death, an indication that a reference to the Department leads to appropriate action. The failure on the part of patients to consult a doctor until the very end of illness; or doubt and difficulty in regard to diagnosis; or failure on the part of the doctors to notify cases although a positive diagnosis has been made, combine to explain the high proportion of un-notified cases.

DEATHS FROM PULMONARY TUBERCULOSIS.

The number of deaths from pulmonary tuberculosis in Liverpool from 1871 to 1923, together with the number of new cases notified, and the death rate which prevailed in England and Wales is given in Table IX.

TABLE IX.

DEATHS FROM PULMONARY TUBERCULOSIS.

Years.	Cases notified.		Number of deaths.	Death Rate per 1,000 Liverpool.	Death Rate per 1,000 England and Wales.
1871 to 1880	Average yearly figures	Nil	1,506	2·90	2·24
1881 to 1890		Nil	1,260	2·35	1·81
1891 to 1900		Nil	1,171	1·92	1·42
1901 to 1910		2,216*	1,233	1·68	1·15
1911.....	2,284†		1,215	1·62	1·03
1912.....	3,611‡		1,113	1·48	0·99
1913.....	3,462		1,183	1·55	0·96
1914.....	2,785		1,132	1·46	0·99
1915.....	2,169		1,299	1·66	1·16
1916.....	2,526		1,254	1.59	1.23
1917.....	3,778		1,357	1·71	1·38
1918.....	3,204		1,400	1·75	1·52
1919.....	2,100		1,089	1·35	0·95
1920.....	2,203		1,102	1·36	0·84
1921.....	2,164		1,048	1·28	0·85
1922.....	2,078		1,086	1·32	0·85
1923.....	2,081		1,046	1·26	——

* Voluntary notification as from 14.2.1901.

† 1911 was the last year of voluntary notification.

‡ From 1912 onwards Pulmonary Tuberculosis was compulsorily notifiable.

In Table X. a similar return is made in respect of deaths, etc., from non-pulmonary tuberculosis.

TABLE X.

Deaths from Non-Pulmonary Tuberculosis.

Years.	Cases notified.		Number of deaths.	Death Rate per 1,000 Liverpool.	Death Rate per 1,000 England and Wales.
1871 to 1880	Average yearly figures	Nil	481	·90	·65
1881 to 1890		Nil	527	·98	·64
1891 to 1900		Nil	500	·82	·61
1901 to 1910		100*	416	·56	·49
1911.....	232†		378	·50	·42
1912.....	——		312	·41	·36
1913.....	1,303‡		390	·51	·38
1914.....	1,003		376	·48	·35
1915.....	825		367	·47	·39
1916.....	641		382	·48	·39
1917.....	639		400	·50	·42
1918.....	802		391	·49	·40
1919.....	507		249	·31	·31
1920.....	495		250	·31	·28
1921.....	595		294	·36	·27
1922.....	553		240	·29	·23
1923.....	498		263	·32	—

* Voluntary notification as from 14.2.1901.

† 1911 was the last year of voluntary notification.

‡ From 1913 onwards Non-Pulmonary Tuberculosis was compulsorily notifiable.

A comparison between the total deaths from pulmonary tuberculosis, the death rate, the total cases notified, and the number of notifications per 100 deaths in the case of Liverpool and other areas is given in Table XI.

TABLE XI.

PULMONARY TUBERCULOSIS IN OTHER AREAS IN 1922.

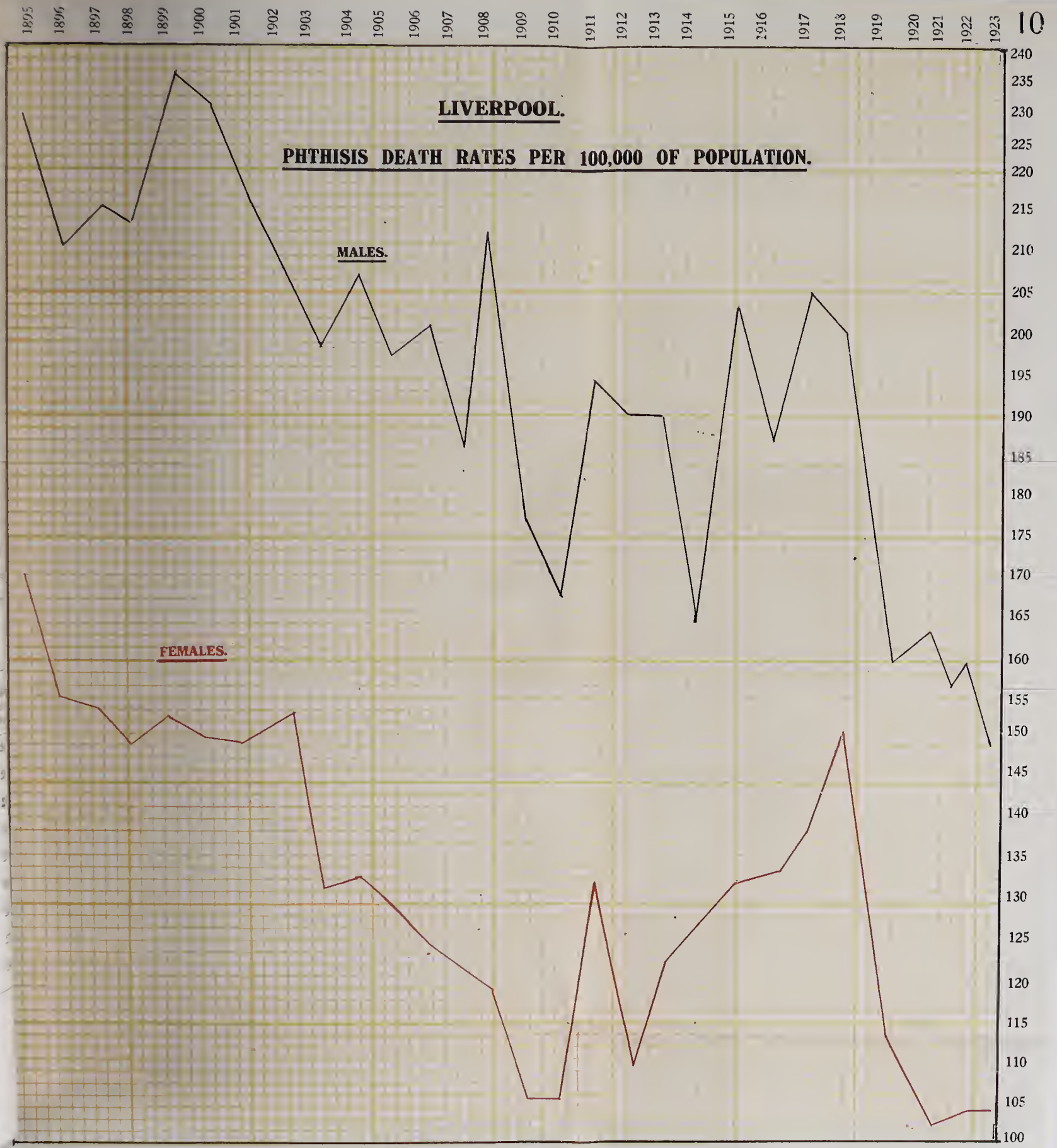
	Number of notified cases.	Number of deaths.	Death Rate per 1,000.	Number of notified cases per 100 deaths.
LIVERPOOL	**2,078**	**1,086**	**1·32**	**191**
Manchester	1,456	947	1·27	154
Leeds	824	533	1·14	155
Newcastle-upon-Tyne	495	322	1·14	154
Bristol...	824	403	1·05	204
Sheffield	1,312	537	1·03	244
Birmingham	1,669	899	·97	186
Bradford	304	225	·77	135
County of Lancashire .	1,863	1,362	·77	136

A similar return relating to non-pulmonary tuberculosis is given in Table XII.

TABLE XII.

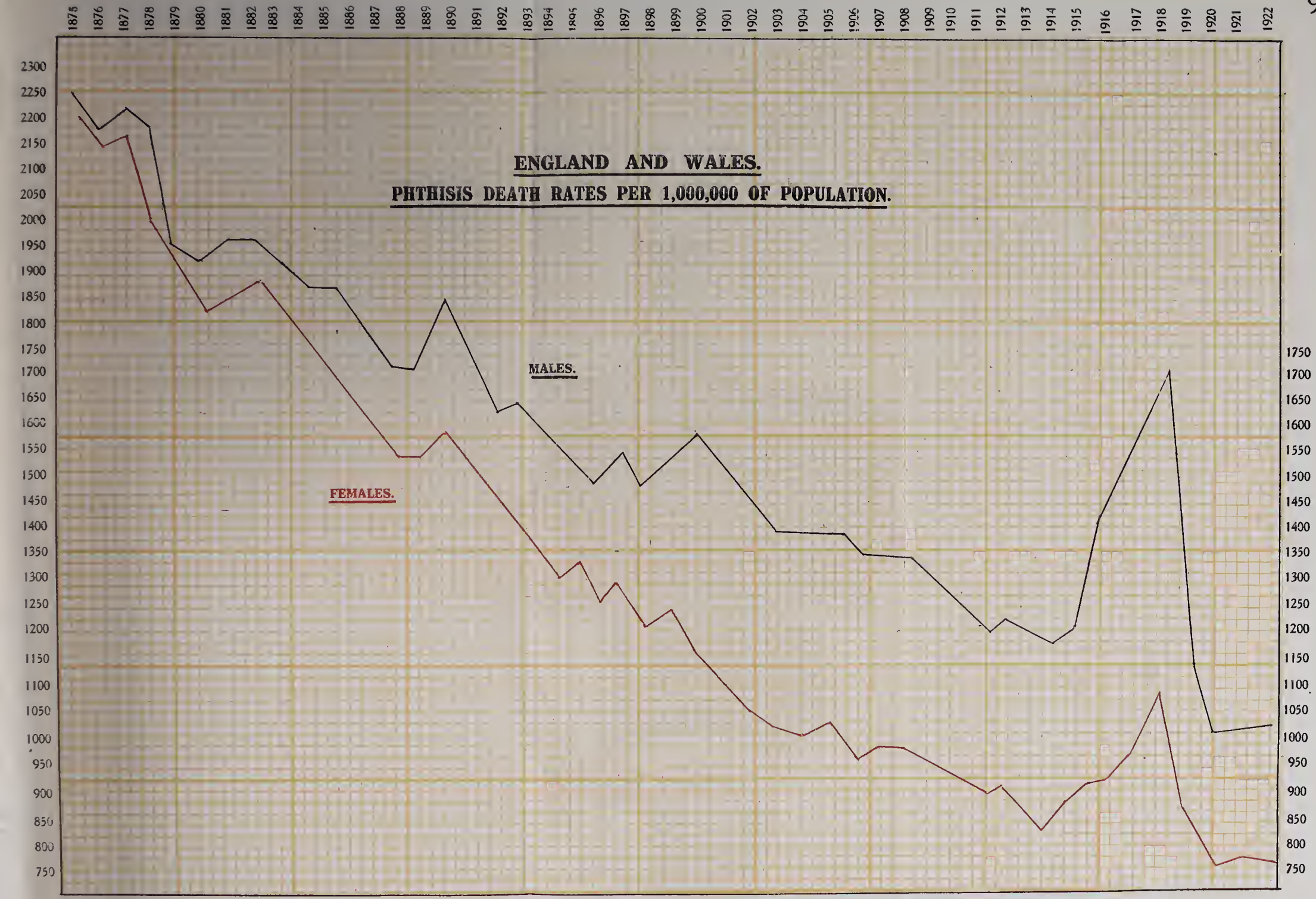
NON-PULMONARY TUBERCULOSIS IN OTHER AREAS IN 1922.

	Number of notified cases.	Number of deaths	Death Rate per 1,000	Number of notified cases per 100 deaths.
Newcastle-upon-Tyne	280	100	·35	280
Manchester	605	242	·33	250
LIVERPOOL	**553**	**240**	**·29**	**230**
Leeds	172	120	·26	143
Bristol...	245	97	·25	252
Bradford	132	72	·25	183
County of Lancashire..	956	389	·22	246
Sheffield	274	99	·19	277
Birmingham	292	150	·16	194


LIVERPOOL.
PHTHISIS DEATH RATES PER 100,000 OF POPULATION.
MALES.
FEMALES.
1895
1896
1897
1898
1899
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
240
235
230
225
220
215
210
205
200
195
190
185
180
175
170
165
160
155
150
145
140
135
130
125
120
115
110
105
100

M.60650.Est.




ENGLAND AND WALES.
PHTHISIS DEATH RATES PER 1,000,000 OF POPULATION.
MALES.
FEMALES.
1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922
2300 2250 2200 2150 2100 2050 2000 1950 1900 1850 1800 1750 1700 1650 1600 1550 1500 1450 1400 1350 1300 1250 1200 1150 1100 1050 1000 950 900 850 800 750

M.61799.Est.

The number of deaths from Phthisis during the year was 1,046. The number of deaths during each of the preceding ten years, 1913-1922, has been as follows:—1,183, 1,132, 1,299, 1,254, 1,357, 1,400, 1,089, 1,102, 1,048, and 1,086.

DISTRICTS.	Quarters.								Year 1923.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	16	7	13	14	7	8	16	9	52	38	90
Exchange	12	7	14	9	13	9	15	3	54	28	82
Abercromby	13	6	21	12	10	9	13	7	57	34	91
Everton	22	16	23	22	19	12	28	19	92	69	161
Kirkdale	12	16	11	16	9	12	5	9	37	53	90
West Derby (West)	22	10	22	19	10	7	11	13	65	49	114
Toxteth	28	9	16	13	13	13	17	17	74	52	126
Walton	17	14	22	9	12	10	11	15	62	48	110
West Derby (East)	10	9	10	9	11	9	15	9	46	36	82
Wavertree	3	6	3	7	6	5	10	7	22	25	47
Toxteth (East)	4	2	...	3	3	3	4	4	11	12	23
Garston	4	2	...	1	1	3	5	2	10	8	18
Fazakerley	...	...	...	2	1	...	...	...	1	2	3
Woolton	4	...	...	...	...	1	3	1	7	2	9
City	167	104	155	136	115	101	153	115	590	456	1,046

Ages at Death.

Under 1 year.	1 –	2—	5—	10—	15—	20—	30—	40—	50—	60 & upwards.	All Ages.
13	17	15	21	32	98	255	214	219	99	63	1,046

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

DEATHS FROM OTHER TUBERCULAR DISEASES.

The number of deaths from other Tubercular Diseases during the year was 263, and the number during each of the preceding ten years, 1913-1922, has been as follows :—390, 376, 367, 382, 400, 391, 249, 250, 294, 240.

DISTRICTS.	Tubercular Peritonitis.		Tubercular Meningitis.		Other forms of Tuberculosis		Year 1923.		
	M.	F.	M.	F.	M.	F.	M.	F.	T.
Scotland	1	5	9	6	2	1	12	12	24
Exchange	...	...	6	...	2	1	8	1	9
Abercromby...	5	1	2	7	5	3	12	11	23
Everton	5	12	4	7	14	6	23	25	48
Kirkdale	4	1	3	9	3	2	10	12	22
West Derby (West)	4	2	2	8	5	6	11	16	27
Toxteth	5	3	4	2	8	4	17	9	26
Walton	2	4	4	3	6	3	12	10	22
West Derby (East)	4	5	3	9	5	1	12	15	27
Wavertree	1	2	2	2	3	2	6	6	12
Toxteth (East)	1	3	3	...	1	2	5	5	10
Garston	...	3	2	1	2	1	4	5	9
Fazakerley...	...	...	...	...	...	1	...	1	1
Woolton	...	1	...	...	1	1	1	2	3
City	32	42	44	54	57	34	133	130	263

Ages at Death.

Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & upwards.	All Ages.
35	40	49	38	18	25	22	9	15	6	6	263

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

NON-PULMONARY TUBERCULOSIS.

The number of cases of non-pulmonary tuberculosis notified was 646 during 1923. These were distributed as follows :—

	Cases.	Rate per 10,000.	Average for three years.
Scotland	42	9·0	8·0
Exchange	38	10·1	12·0
Abercromby	46	9·6	8·8
Everton	115	8·9	8·1
Kirkdale	72	10·0	8·9
West Derby, West	64	6·8	7·5
Toxteth	48	4·3	7·0
Walton	62	7·2	6·1
West Derby, East	75	9·4	6·7
Wavertree	42	9·1	6·5
Sefton Park	12	3·4	3·6
Garston	23	7·8	4·9
Fazakerley	4	6·4	4·4
Woolton	5	5·2	3·5
Whole City	646	7·7	7·2

The site of the disease was as follows:—

	Total Cases.		Cases having a clear family history of Tuberculosis.	
	Cases.	Per cent.	Cases.	Per cent.
Bones and Joints	149	23·1	5	9·6
Abdominal	131	20·3	11	21·2
Peripheral Glandular ...	215	31·7	16	30·8
Meninges and Brain ...	81	12·5	12	23·1
Skin	20	3·1	2	3·8
Urinogenital	13	2·0	2	3·8
Ill-defined	37	5·7	4	7·7
	646		52	

There is an increase in the abdominal infections from 69 in the preceding year to 131 cases in 1923. The most noticeable features of the cases having a clear family history of tuberculosis are the relatively low proportion of cases affecting the bones and joints and the relatively high proportion of cases affecting the meninges and brain.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912, and REGULATIONS (No. 2), 1918.

Summary of Notifications during the period from the 31st December, 1922, to 29th December, 1923:—

Age-periods.	Notifications on Form A. — Number of Primary Notifications.												Total Notifications on Form A.
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	Total Primary Notifications.	
Pulmonary—													
Males	9	47	94	59	106	106	233	208	165	94	22	1,143	1,292
Females	7	29	86	91	96	122	200	163	96	35	13	938	1,032
Non-Pulmonary—													
Males	12	51	53	44	36	14	11	6	6	—	—	233	251
Females	6	49	56	49	30	29	28	10	5	2	1	265	294

Age-periods.	Notifications on Form B. — Number of Primary Notifications.				Total Notifications on Form B.	Number of Notifications on Form C.	
	Under 5	5 to 10	10 to 15	Total Primary Notifications		Poor Law Institutions.	Sanatoria.
Pulmonary—							
Males	—	7	5	12	16	68	70
Females	—	10	5	15	25	7	53
Non-Pulmonary—							
Males	2	28	21	51	60	1	—
Females	1	18	16	35	41	—	—

Form "A" is used by Medical Practitioners on first becoming aware that a patient is suffering from tuberculosis, unless he has reasonable grounds for believing that the case has already been notified.

Form "B" is used by School Medical Officers to make a weekly return to the Medical Officer of Health of all cases of tuberculosis coming under their notice in carrying out the duties of medical inspection of children in Public Elementary Schools.

Form "C" is for the use of the Medical Officers of Poor Law Institutions and Sanatoria to make a weekly return of cases admitted to their Institutions, and applies only to cases which have been previously notified on Form "A."

VENEREAL DISEASES.

The Royal Commission on Venereal Diseases reported in 1916, and made the first suggestions for grappling with these diseases. The recommendations may be summarised as follows:—

1. That opportunities should be afforded to sufferers to have free and expert treatment.

2. That extended facilities should be provided for the diagnosis of these diseases.

3. That information as to the dangers of Venereal Diseases should be disseminated and particulars as to the facilities provided for free treatment.

It is now five years since free treatment centres and arrangements for expert diagnosis were established under the Liverpool Venereal Diseases Scheme.

The following summarises the work of the Treatment Centres for the year 1923.

The Clinics now in operation are—The Royal Infirmary, the Royal Southern Hospital, the David Lewis Northern Hospital and the Stanley Hospital.

The Clinics which were established are very serviceable and popular. Patients attending the Out-Patients' Department of the Hospitals and those suffering from Venereal Diseases are directed to the Department dealing with their special ailment, and particular care is taken that such patients suffering from Venereal Disease are not singled out or made conspicuous.

During the year under review, there were 3,026 new patients, male and female, a reduction of 526 as compared with the figure for 1922. A suggested explanation of this reduction is that on account of unemployment and other industrial conditions, there was a lack of means. But apart from this, the value of efficient free treatment and education is beginning to make itself evident.

The attendances for the year at all the Clinics totalled 46,038 male and female. A table shewing attendances, etc., at each of the clinics is given, and also details of the diseases and sexes dealt with at the largest centre, namely, the Royal Infirmary.

RETURN SHOWING THE NUMBER OF **NEW PATIENTS** ATTENDING THE VENEREAL DISEASES CLINICS DURING THE YEAR 1923. ALSO **TOTAL ATTENDANCES AND IN-PATIENT DAYS** OF **OLD AND NEW PATIENTS** DURING SAME PERIOD.

	Royal Infirmary.	Royal Southern Hospital.	David Lewis Northern Hospital.	Stanley Hospital.	Total.
New Patients	1,767	583	388	288	3,026
Old and New Patients—					
Total attendances...	28,084	4,534	8,609	4,811	46,038
In-Patient Days ...	98	3,413	—	286	3,797

CLASSIFICATION OF CASES ATTENDING THE LIVERPOOL ROYAL INFIRMARY DURING

	New Cases. *			Ceased to Attend before Cure Completed.			Total Attendanc	
	M.	F.	Total.	M.	F.	Total.	M.	F.
Syphilis	392	123	515	571	153	724	10,613	3,118
Gonorrhœa	642	62	704	679	73	752	12,187	884
Soft Chancre	7	—	7	5	—	5	47	—
Suspected cases examined and found to be free from V.D.	354	51	405	—	—	—	1,095	140
Total	1,395	236	1,631	1,255	226	1,481	23,942	4,142

* The figures in these columns include "Re-admissions," *i.e.*, old patients who had ceased attend for more than six months.

The occupations stated to be followed by patients registered at the Clinics at the Royal Infirmary during the year are of interest :—

Males.		Females.	
Seafaring people	505	Housewives.....	111
(Of these 46 were foreign)		Home duties	12
Artizans	459	Shop Assistants	7
Miscellaneous	337	Factory Hands	1
(Clerks, Agents, Hawkers, &c.)		Housemaid	1
		Waitress	1
		Domestic servants.....	21
		Other occupations	24
	1,301		178

In addition, 134 male and 39 female patients who had ceased attending for 6 months (or longer) resumed their attendances during the year.

38·0 per cent. of the total male patients registered were seafaring people.

7·0 per cent. of the latter were not natives of the British Isles, and are classed as follows:—

U.S.A. and Canada, 4; Colonies, 4; Norway and Sweden, 15; other nationalities, 16.

The ages range approximately from 15 to over 60 years, but the majority of the patients were between the ages of 20 and 30 years, as shown by the following table, viz. :—

	Male.	Female.
10—15	—	4
15—20	46	16
20—25	349	50
25—30	380	44
30—35	221	25
35—45	220	25
45—55	70	14
55—65	12	2
56 upwards	3	2

There were 22 infants and young children under 10 years of age who attended this Clinic during the year. Past experience shows that many cases of uncertain diagnosis, and simulating syphilis, especially skin eruptions, may be incorrectly reported as syphilitic. Many of them require a more careful investigation before a definite diagnosis can be made. This has also been experienced in the past in other diseases, e.g., typhoid fever, with which disease many simulating conditions were confused. Of the above 22 infants and children only five were found to be suffering from syphilis, seven from gonorrhœa, and ten were non-venereal.

Correct diagnosis being very important, arrangements have been made with the City Bacteriologist to examine material, and the following extract from his Report gives the numbers and particulars of the specimens examined for the Liverpool Clinics, Hospitals and Private Practitioners:—

Detection of Spirochaetes	17
Detection of Gonococci	628
Wassermann Reaction for Syphilis	4,100
Still-born Infants	408
Ophthalmia Neonatorum	65
Total	5,218

As the majority of the specimens are sent from patients suspected to be suffering from Syphilis, or undergoing treatment, several specimens of blood may be sent from one case at different times, and, therefore, any percentages as to positive and negative results would be of no value.

Still-Births.—Of the 408 still-born infants examined, 33 gave positive evidence of the presence of Syphilis (i.e., about 8 per cent.), and 11 were suspicious. In three of these suspicious cases the blood taken from the

mother gave a positive Wasserman Reaction. Although the percentage of syphilitic still-born infants is lower than usual there is no direct evidence as to whether this reduction is due to treatment.

The importance of this work is very great, for where the actual causal spirochaete has been discovered the mother (and in some cases the father) can be advised to submit to treatment. The special Health Visitor also undertaken the visiting of these cases, and visits to the number of 196 were made during the year.

In many cases a visit was paid to the Clinic to obtain information with regard to the attendance of patients, thus obviating the necessity of too frequent visits to the homes of the patients.

In many instances great difficulty has been experienced in getting the mothers to attend for examination and treatment. A large number, however, have been persuaded to attend for treatment, but these women prefer to attend at hours other than those fixed in the regular Time-table; it is difficult to get those of the better class to continue attendance at regular clinics where prostitutes and other types of patients are brought together. Other arrangements to meet these difficulties are in contemplation.

Of the 65 cases of Ophthalmia Neonatorum, 16 showed the presence of Gonococcus, i.e., about 25 per cent. The importance of the examination of these cases at an early stage has been previously emphasised, and the results for this year have confirmed these observations.

The following drugs have been issued to Institutions and Medical Practitioners by the Department during the year 1923 :—

ISSUE OF DRUGS TO CLINICS, HOSPITALS, AND PRIVATE PRACTITION

Issued to	Neokharsivan.					Novarsen-obillon.				Novarseno-benzol. C.		Ga	
	0·30	0·45	0·60	0·75	0·90	0·30	0·45	0·60	0·90	0·30	0·60	0·15	0·20
Royal Infirmary	957	—	1,854	—	24	—	—	—	—	32	84	—	—
Southern Hospital	144	204	276	72	312	—	—	—	—	—	—	—	—
Northern Hospital	276	72	72	—	312	—	—	—	—	—	—	—	—
Stanley Hospital	1,296	—	4	—	—	—	—	—	—	—	—	—	—
Edge Lane Hospital	12	—	36	—	—	—	—	—	—	—	—	—	—
Total Clinics	2,685	276	2,242	72	648	—	—	—	—	32	84	—	—
Children's Hospital	3	—	6	—	—	—	—	—	—	—	—	—	—
Prison Hospital	—	—	—	—	—	261	280	182	138	—	—	—	—
Walton Institution	348	276	84	84	—	—	30	—	30	—	—	—	—
Cancer and Skin Hospital ...	72	60	48	—	—	10	—	10	—	—	—	—	—
Eye and Ear Hospital ...	—	—	—	—	—	57	60	—	—	—	—	—	—
Belmont Road Hospital ...	—	—	153	—	—	—	—	—	—	—	—	—	—
Smithdown Road Hospital ...	—	—	—	—	—	—	—	—	—	—	—	8	16
Alder Hey Hospital	24	—	—	—	—	—	—	—	—	—	—	—	—
Total Hospitals	447	336	291	84	—	328	370	192	168	—	—	8	16
32 Private Practitioners	282	242	402	60	96	65	4	28	22	—	—	17	31
Grand Total	3,414	854	2,935	216	744	393	374	220	190	32	84	25	47

Total Number of Doses of Neokharsivan ...
,, ,, ,, Novarsenobillon...
,, ,, ,, Novarsenobenzol C.
,, ,, ,, Galyl ... ...
,, ,, ,, Stabilarsan ...
,, ,, ,, Sulfarsenol ...

Approximately one-seventh of the drugs enumerated abov

ING 1923 FOR THE TREATMENT OF VENEREAL DISEASES.

	Stabilarsan.					Sulfarsenol.												
0·40	0·30	0·45	0·60	0·75	0·90	0·015	0·02	0·03	0·06	0·12	0·18	0·24	0·30	0·36	0·42	0·48	0·54	0·60
—	30	310	230	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	4	4	4	4	4	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	1	—	3	29	3	267	9	8	119	3	—
—	—	—	—	—	—	—	—	—	—	30	30	30	30	60	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	6	6	—	6	4	—
—	34	314	234	54	4	—	—	1	—	33	59	33	303	75	8	125	7	—
—	—	—	—	—	—	—	—	—	2	2	—	—	2	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	10	—	—	10	—	30
3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	24	—	16	—	2	—	—	16	16	3	6	9	3	3	3	3	3	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	10	—	—	—	—	3	3	66	57	84	—	—	—	—	—	—	—	3
3	34	—	16	—	2	3	3	82	75	89	6	9	15	3	3	13	3	36
114	18	19	12	8	—	—	—	—	4	3	15	6	54	4	25	36	1	24
117	86	333	262	62	6	3	3	83	79	125	80	48	372	82	36	174	11	60

To Clinics.	To Practitioners.	To Hospitals.
5,923	1,082	1,158
—	119	1,058
116	—	—
—	237	44
640	57	52
644	172	340

n issued to 32 Private Practitioners who applied for them.

The necessity for the provision of a home or hostel where young women suffering from venereal diseases could be housed during the infectious stage has been for some years recognised. Arrangements have been made with the Liverpool Diocesan Association to provide such an establishment, the Corporation to some extent financing the home under definite agreement.

The house originally taken for this work not proving satisfactory, new premises were acquired in the beginning of this year, and it is hoped that the work will now proceed under more favourable conditions. The home provides 15 beds for women of the class mentioned.

Venereal Diseases—Education.

The subject—in its various aspects—of the prevention of venereal diseases has engaged the attention of the Councils of the various Merseyside Boroughs through Committees specially appointed for the purpose, and, as a result of consultations and communications between those bodies, agreements have been reached as to the procedure which it is desirable to follow in regard to the prevention of these diseases.

The work of educational propaganda, which perhaps may have been regarded as relatively unimportant, has now been undertaken with the approval of the Ministry of Health by a Joint Committee, the members of which are appointed by the respective Merseyside Boroughs, viz., Liverpool, Birkenhead, Bootle and Wallasey.

The educational work of this Joint Committee consists in arranging lectures and other means of bringing the subject of the dangers of venereal diseases to the notice of the general public. Funds are provided by the associated Boroughs in appropriate proportions for the carrying out of this work.

Experience in Liverpool corresponds with that found elsewhere in regard to the system of free treatment centres, where no obligation is placed on persons suffering from these diseases: the patients too frequently give up treatment when the local manifestations of the disease have subsided. Such persons frequently remain in an infectious condition, and consequently are a great danger to the public. They also lose sight of the great importance of steady continuance under medical advice at the Clinic in the cure of their dangerous ailments.

Efforts have been made in Liverpool by various means to get these patients back to continue treatment. It cannot be said that these have had much effect.

Suggestions for improvement in our methods of dealing with venereal diseases have been made some years ago by the Committees of the Liverpool Corporation dealing with these diseases. For some years it has been felt that the present schemes should be strengthened by the addition of some compulsory powers which should be given to local Health Authorities to compel the sufferer to seek a doctor's advice and to follow it should he be found to suffer from the disease. Those who, after repeated warnings, deliberately refuse treatment should be punished, and public opinion would justly agree with this course.

The powers suggested in the proposals of the Liverpool Corporation need not of necessity be used, it might be left to local Health Authorities to adopt such of them as appeared desirable for their respective areas.

If it can be brought home to the patient that it is his duty to himself and to his fellow men to follow a full and proper course of treatment until free from liability to infect others, much good will be attained.

The Liverpool Health Committee think these ends can be reached by making it obligatory for everyone who suffers, or suspects he is suffering, to seek medical advice and to follow the doctor's instructions; in no case will secrecy be betrayed, and it would only be in cases of deliberate discontinuance that prompt action would be taken by the Health Authority in the public interest.

The following is the text of the proposed clauses to be inserted in the next Corporation Bill to be placed before Parliament:—

VENEREAL DISEASES.

Duty of Person Infected.

(1) Every person suffering from any form of Venereal Disease as soon as he is aware or has reason to believe that he is suffering from such disease, shall forthwith consult a Medical Adviser with respect thereto, and shall furnish to him his correct name and address, and place himself under his treatment.

(2) Every such person shall continue to attend or be attended by his Medical Adviser, and to follow his advice and treatment until he is deemed free from infection.

(Provision to be made for change of Medical Adviser and for routine procedure in case of neglect to continue treatment.)

(3) No person shall knowingly or wilfully infect any other person with Venereal Disease or do or permit any act likely to lead to such infection.

Duty of Parent or Guardian.

Every parent, guardian or person in charge of a child (under 16 years of age) or mental defective suffering from any form of Venereal Disease, and who knows that such child or defective is suffering from such disease, shall cause the child or defective to be treated and continue treatment for such disease by a Medical Adviser.

Penalties.

Section 1 (3) of the Public Health Act, 1896, provides that if any person wilfully neglects or refuses to obey the execution of any regulation under Section 130 of the Public Health Act, 1875, he shall be liable to a penalty not exceeding £100, and in the case of continuing the offence, of a further penalty of £50 per day.

Duties of Medical Practitioner.

(1) The doctor shall direct the patient's attention to the infectious character of the disease, and to the necessity of continuing treatment until free from liability to infect, and to the penalties prescribed.

(2) To arrange for transfer to another medical adviser when the patient so desires.

(3) When a patient discontinues medical treatment without adequate reason, the medical adviser will forward his name and address to the Medical Officer of Health. In any case where a fee is not paid by the patient to the doctor, the provision for such payment shall be made on the lines which the Ministry have already authorised in Liverpool in regard to the domiciliary

treatment of non-insured Tuberculous persons. Suitable forms shall be provided for the use of medical practitioners intimating the obligations upon patients—arrangements for transfer when necessary—and forms of notice to the Medical Officer of Health as to acceptance of a patient by the practitioner, and when necessary, his non-attendance.

Drugs specially necessary for treatment shall be provided free of charge to medical men as hitherto. Ordinary prescriptions shall be paid for as in the Scheme for domiciliary treatment of Tuberculosis.

Duty of Medical Officer of Health.

The Medical Officer of Health on receipt of a notice from the medical adviser in regard to any patient, shall make enquiries from the person named as to the reason for discontinuance of treatment, and unless satisfied shall cause an information to be laid in a Court of Summary Jurisdiction.

The Trevethin Committee points out that there is one practical difficulty in the way of any form of notification re-inforced by measures of compulsory treatment, that in the present state of knowledge there is no standard of non-infectivity or cure generally accepted by the medical profession, and until this has been attained it is difficult to see how any system involving notification and compulsory means of treatment could be applied. The following quotation from the report deserves notice :—

"Notwithstanding what we have said we are of opinion that it may well be that in certain areas, special means for the prevention of venereal diseases would be justifiable, e.g., measures dealing with defaulters, and in a large seaport town public ablution centres for disinfecting in the neighbourhood of docks, and we think that Local Health Authorities who are able to make to the Ministry of Health a special case for some such special measure should be allowed, at any rate for some limited period, by way of experiment, to carry out the measures they propose under the present system, by which a contribution towards the expense is made by the State. In this way there may ultimately be built up a body of experience of great value in determining future policy."

SEAMEN'S DISPENSARY.

The efforts made to find a suitable site for a Seamen's Dispensary have now been successful, and an appropriate building has now been erected with the sanction of the Ministry of Health, at a cost of £4,649. The premises are situated in the neighbourhood of the Sailor's Home and Board of Trade Offices, and were opened by the Lord Mayor on 28th January, 1924. A whole-time Assistant Medical Officer has been appointed.

It is felt that the Institute will supply a great need in dealing with the many ailments of the seafaring community. It is the intention to deal primarily with venereal diseases at this centre, but this fact will not debar seamen suffering from other ailments, including tropical diseases, from receiving preliminary advice, and in some cases treatment.

In the main, however, such cases will be referred to Institutions where they can be more suitably treated. The accompanying plan shows the site of the Dispensary and its relationship to the various seamen's institutions.

City and Port of Liverpool.

THE SEAMEN'S DISPENSARY

at the corner of

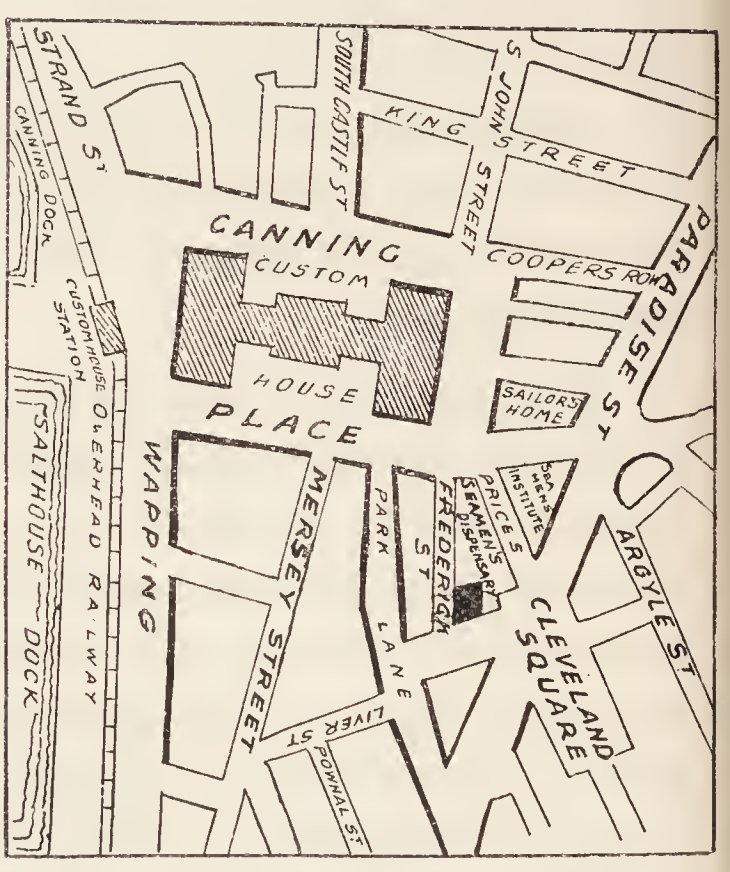
CLEVELAND SQUARE & FREDERICK ST.,

is now open for free examination and advice on the ailments of Seamen.

All patients will be medically examined and free treatment given in cases which can be dealt with at the Dispensary. All other cases, after the necessary attention, will be referred to a suitable Hospital for treatment.

The Dispensary is Open Daily from 9-30 a.m. to 8 p.m.

The hours of attendance of the Medical Officer can be ascertained at the Dispensary.



The accompanying illustrations indicate the appearance of the building and show general views of the treatment rooms, from which it will be seen that they are fully equipped for the purpose required.



View of the Seamen's Dispensary which was opened on 28th January, 1924, by the Lord Mayor of Liverpool.



Medical Officers' Consulting Room, with facilities for Bacteriological and Microscopical investigation.



Operating Room, with modern conveniences for examination and treatment.

HOSPITAL ADMINISTRATION.

During the year 1923 the City Infectious Hospitals and Sanatoria were in full commission.

At the end of the year the amount of hospital accommodation for infectious cases was as follows:—

City Hospital North	166 beds
,, ,, South	96 ,,
,, ,, East	153 ,,
,, ,, Fazakerley	300 ,,
,, ,, Fazakerley Annexe	160 ,,
,, ,, Sparrow Hall	150 ,,
Parkhill Sanatorium	100 ,,
Fazakerley Sanatorium	240 ,,
Highfield Sanatorium	320 ,,
	1,685

Highfield Sanatorium is an Institution formerly belonging to the West Derby Board of Guardians, and was built to accommodate Poor Law cases. It is well adapted, however, for the treatment of tuberculosis, and was taken over for a period of two years by the Liverpool Corporation from the Poor Law Authority. Occupation commenced on the 7th May, 1921, and at the end of the year 1923 there were 289 patients suffering from tuberculosis resident in this Institution. Arrangements have now been completed for the purchase of this building from the Guardians.

The Parkhill Sanatorium will close on 30th June, 1924, owing to the Mersey Docks and Harbour Board requiring the land for the extension of the Oil Jetty and Storage Tanks at Dingle Point. The patients will be accommodated at other Institutions, either in the City or elsewhere.

The value of the Hospitals, and the immense amount of useful work performed, is shown by the fact that no less than 6,487 patients were treated within their walls during the year.

The Hospitals Committee have agreed with various Local Authorities to receive cases of infectious disease from districts beyond the City boundary, namely, Sefton Rural District, Waterloo and Seaforth, Great Crosby, Little Crosby, Leasowe Hospital, and the Children's Convalescent Home, West Kirby.

Arrangements have also been made to deal with any case of cholera, yellow fever, or plague, which may arise in any of the neighbouring Urban or Rural Districts. A suitable charge is made in each case.

THE HOSPITAL SERVICE.

FAZAKERLEY HOSPITALS AND SANATORIUM.

REPORT OF THE MEDICAL SUPERINTENDENT.

YEAR ENDING 31ST DECEMBER, 1923.

The total number of patients admitted to the Fazakerley Hospitals (excluding the Fazakerley Sanatorium) during the year ending 31st December, 1923, shows an increase of 1,349, as compared with that of the previous year. The number of cases under treatment reached a maximum of 471 on June 11th. The following figures represent the gross monthly admissions:—

	Fazakerley Isolation Hospital.	Fazakerley Annexe Hospital.	Sparrow Hall Hospital.	Total.
January ...	107	12	16	135
February ...	136	29	38	203
March ...	179	46	53	278
April ...	173	45	77	295
May	260	75	53	388
June	271	76	116	463
July	200	63	42	305
August ...	84	35	27	145
September ...	122	44	19	185
October ...	145	64	43	252
November ...	162	56	19	237
December ...	195	55	68	318
Totals	2,034	600	571	3,205

The number and description of cases proving fatal within 48 hours of admission during the year are shewn in the following table :—

ANALYSIS OF CASES DYING WITHIN 48 HOURS OF ADMISSION.

Disease.	Age.	Days ill prior to admission.	No. of hours in hospital.
Scarlet Fever	2 years.	7	30
Diphtheria	5 ,,	8	8
Diphtheria	1 ,,	2	12
Measles	9 months.	7	8
Measles	1 year.	5	5
Measles	4 months.	4	30
Measles and Diphtheria	2 years.	3	8
Pertussis	1 year	10	12
Lobar Pneumonia ...	43 years.	3	33
Lobar Pneumonia ...	56 ,,	4	15
Lobar Pneumonia ...	8 ,,	2	2
Lobar Pneumonia ...	15 ,,	4	33
Lobar Pneumonia ...	68 ,,	7	16
Lobar Pneumonia ...	54 ,,	5	46
Suppurative Appendicitis	8 ,,	4	12
Gastro-Enteritis ...	1 ,,	1	26
Erysipelas	15 ,,	6	30
Erysipelas	4 months.	8	44
Anthrax	54 years.	3	31
Anthrax	44 ,,	5	3
Encephalitis Lethargica..	22 ,,	10	34
Acute Bright's Disease...	57 ,,	4	43
*Burns of body, face & limbs	4 ,,		32

TUBERCULOSIS.

Arc-light Treatment of Tuberculosis.

An arc-light equipment has been installed at the Fazakerley Sanatorium on lines similar to those in use at Copenhagen, Stockholm, and some other Continental cities. The type decided upon, as the result of an inspection of the several varieties in use on the Continent,

* Death was due to burns accidentally received at home 10 hours before admission.

comprises two 75 amp. lamps in series, and makes possible the treatment at one time of six sitting, or three recumbent patients. The methods prescribed by Dr. Reyn, of the Finsen Institute, Copenhagen, are being observed in their essential details.

It is not yet possible, in view of the short time which has elapsed since the inauguration of this method, to express any opinion as to its therapeutic value beyond the fact that individual patients express their appreciation of the tonic effect and general well-being which they experience as the result of an arc-light sitting. Cases of surgical tuberculosis only have as yet been given this treatment; it being quite clear from the experience of recognised continental authorities that very great caution is necessary in the exhibition of arc-light in cases of pulmonary disease.

X-Ray Department.

During the year 342 films and plates have been taken, and 670 screen examinations made in the Department, a considerable increase upon the numbers of previous years.

The work under this heading comprises examinations made under the following circumstances :—

(1) On the admission and discharge of all patients. These records are of value in indicating the progress made under Sanatorium treatment.

(2) Cases receiving treatment by induced pneumothorax are examined as often as may be necessary to their proper observation and control.

(3) Cases of surgical tuberculosis have their condition recorded by X-ray film at intervals varying with their individual requirements.

(4) A considerable number of patients have been examined by request of the Tuberculosis Officers. These comprise cases of doubtful diagnosis, and cases already under treatment in Institutions not furnished with an X-ray equipment.

With a view to greater accuracy in the detail of films of pulmonary disease, the provision of a Combination Stereo Plate Shifter is under consideration. There is no doubt that examination by stereo-radiographic methods will facilitate diagnosis in suspected cases of pulmonary tuberculosis at a stage when cure is possible.

The therapeutic use of X-ray has been restricted by reason of the small number of cases admitted during the year of a type suited to this form of treatment.

Sanatorium School.

The appointment of a second teacher to comply with a recommendation made by the Ministry of Health is under consideration. It is scarcely possible, however, to make provision for a daily instruction of four hours in all cases under treatment at this Institution. The separation of positive cases from negative, pulmonary from surgical, and the large number treated as " observation " cases, make it impossible to bring together all children who otherwise might receive tuition in one class. It is, however, anticipated that the appointment of a second teacher will largely overcome this difficulty. The suggestion made by a Medical Officer of the Board that further time should be given to manual occupations is having attention. It must be noted in this connection that many children coming under Sanatorium treatment have, by reason of enfeebled health, received little or no previous teaching, and it is difficult in these cases, during the few months of teaching, to make headway in the most rudimentary subjects if manual occupation is to occupy a large share of school hours. Systematic teaching lies under a further disability in that children suffering from tuberculosis are, from the nature of their disability, peculiarly irregular in their ability to attend. It is found in practice that the average class undergoes a 20 per cent. daily variation in the personnel of its scholars during the winter months. Under these circumstances the considerable progress made by the majority of children attending a Sanatorium school is very gratifying, and is not arrived at without the exercise of marked patience and skill on the part of the teacher.

Classification of Completed Cases, 1923.

Pulmonary	A	154
Do.	B.I.	82
Do.	B.II.	55
Do.	B.III.	30
Non-pulmonary	... ...	52
Non-tuberculous	... ...	6

OCCUPATION LIST.

Males.

Labourer	51	Packer	3
Schoolboy	22	Scaler	3
Clerk	18	Ship's Cook	3
Engineer	7	Soldier	3
Carter	6	Tailor	3
Marine Fireman	6	Barman	2
Sailor	6	Bricklayer	2
Dock Labourer	5	Groundsman	2
Porter	5	Insurance Agent	2
Shop Assistant	5	Painter	2
Policeman	4	Storekeeper	2
Ship's Steward	4	Tobacco Factory	2
Boiler Maker	3	Tram Conductor	2
Checker	3	Waiter	2
Motor Driver	3	Various	51

Females.

School Girl	30	Mill Worker	3
Housewife	28	Nurse	3
Housemaid	12	Charwoman	2
Clerk	6	Dispenser	2
Shop Assistant	5	Labeller	2
Tailoress	4	Milliner	2
Confectioner	3	Waitress	2
Machinist	3	Various	31

REPORT OF CONSULTING SURGEON, 1923.

At the beginning of 1923 there were 105 patients in the Sanatorium with tubercular lesions requiring special surgical care. At the end of the year there were 98. During 1923, 56 adults and 21 children have been discharged. Of the 21 children, 12 were so far improved that one might say that the disease was quiescent; one more was definitely improved. Three were removed by their parents after two to three months, not improved, and five died. It should be noted that the average stay in hospital of these five was only one month.

The following tables refer to adults only. In them treatment is much more uncertain in its results, and is bound to be much longer in its duration, as their resistance to the disease is less. A further complication handicapping the adults is that 28 out of the 56 surgical cases discharged during the year—just 50 per cent.—were infected also with phthisis in an active stage.

TABLE I (Adults only).

	Part affected.	Number of Cases.	Average stay in Hospital in months.	Result. Quiescent.	Improved.	Not improved.	Died.
Early Cases	Bones and Joints ...	3	20	3	—	—	—
	Abdomen	1	2	—	—	—	1
	Genito-Urinary System	—	—	—	—	—	—
	Peripheral Lymph Glands	3	6·6	2	1	—	—
	Miscellaneous	—	—	—	—	—	—
	Total	7		71%			
Late Cases	Bones and Joints ...	15	13·3	5	1	4	5
	Abdomen	1	3	—	—	—	1
	Genito-Urinary System	1	6	—	—	1	—
	Peripheral Lymph Glands	2	14·5	2	—	—	—
	Miscellaneous	2	4·5	1	—	1	—
	Total	21		38%			

TABLE II (ADULTS ONLY).

	Part affected.	Number of Cases.	Average stay in Hospital in months.	Result. Quiescent.	Improved.	Not improved.	Di
Cases With Lung Lesions. — Early Cases	Bones and Joints	2	6	—	2	—	-
	Abdomen	—	—	—	—	—	-
	Genito-Urinary System ...	1	12	1	—	—	-
	Peripheral Lymph Glands ...	1	17	—	1	—	-
	Miscellaneous	—	—	—	—	—	-
	TOTAL	4		25%			
Late Cases	Bones and Joints	10	19·6	1	2	1	
	Abdomen	5	6·4	—	—	1	
	Genito-Urinary System ...	3	5′3	—	2	—	
	Peripheral Lymph Glands ...	3	8·6	—	2	—	
	Miscellaneous	3	12·3	1	1	—	
	TOTAL	24		8′3%			

Attention is drawn to the fact that the proportion of "late" cases, that is, those with the disease already advanced upon admission, is greater than ever, amounting to 80 per cent. of the total. The "early" cases provided 20 per cent. only. By education of the profession and of the public, and by administrative measures, these proportions must be reversed if better results are to be obtained.

When the deaths during the year are investigated, it is found that out of the twenty that occurred no fewer than seven took place within three months of the patient's admission to Fazakerley. In addition, there were three patients whose names would almost certainly have figured in that category, had their friends not removed them when they realised

that a fatal issue was imminent. In other words, in the course of a year, during which only 56 beds became available for the treatment of surgical tuberculosis, ten were allotted to patients, so ill on admission that no benefit could reasonably be expected from Sanatorium treatment.

Another source of wastage not brought out by the above figures needs comment and serious thought. Out of 56 adults discharged during 1923, nine left the hospital in opposition to medical advice. Some of these were known to be unlikely to recover, but others gave hopes of a successful end to treatment, and of these latter some at least have since relapsed and required readmission. One realises fully the tedium of a prolonged stay in hospital, and also that home anxieties are often pressing. At the same time, the situation is so serious in regard to the supply of beds, that measures to put a stop to this avoidable wastage should be pressed upon the administrative authority.

The past year has seen the firm establishment of the "sun treatment" of tuberculosis—so far as it is applicable in our climate—as a routine accessory to all other measures. The use of X-rays in treatment—as opposed to its value in diagnosis—has become more and more limited in its application. The outstanding feature of the twelve months, however, has been the careful and extended trial made of the line of treatment suggested by Sir Leonard Rogers, the distinguished leader of the leprosy campaign, owing to the similarity of the causal organism in leprosy and tuberculosis. Put briefly, the injection of certain fatty substances, derived from cod liver and other oils, is made use of to raise the patient's resistance to the tubercle bacillus. It may be said that while it is still too soon to speak with authority of this new method, there are certain facts that make us hopeful that we have here a method of attack to which the bacillus does appear in some degree at least susceptible. Various modifications of Sir Leonard's treatment are being tried, and appear even more hopeful, but the amount of scientific detail is so great that with the staff available no thorough investigation can be carried out, and attempts at improvement are of necessity largely empirical. There is great need of a research worker to devote his whole time to this and kindred problems in tuberculosis. He would have to be a man specifically trained in methods of scientific research, preferably a bacteriologist in all probability, awake to the clinical facts and fallacies in tuberculosis and keen for their elucidation. With such a worker at our disposal the possibility of real progress is now in sight, and calls for our every effort to realise it.

HIGHFIELD SANATORIUM.

Report of the Medical Superintendent.

The admissions during the year numbered 579, of which number 340 were males, and 239 were females.

The age periods of the cases admitted were as follows :—

Age.	Males.	Females.	Total.
10—20	33 ...	47 ...	80
20—30	82 ...	81 ...	163
30—40	90 ...	58 ...	148
40—50	77 ...	40 ...	117
50 upwards	58 ...	13 ...	71

Classification of Cases.

Class A	157
,, B1	57
,, B2	170
,, B3	191

Dental Treatment.

Early in the year sanction was given for the periodic visits of a Dental Surgeon to deal with urgent dental cases, including particularly the treatment of septic mouths, by extractions and scaling.

This dental treatment has been of great value, particularly in the numerous cases suffering from septic conditions of the mouth—conditions which have a markedly deleterious effect on the progress of the case.

PARKHILL SANATORIUM.

Report of the Medical Superintendent.

The number of beds available during the year was 100.

The number of patients admitted during the year was 106.

The classification of admissions was A, 42; Bi., 32; Bii., 14; Biii., 18.

With one exception the primary tuberculous lesion was of the lung.

The exception was a case of abdominal tuberculosis in a boy of 16 years.

As formerly Graduated Exercise, which is an important factor in treatment, has been engaged in by the patients. Owing to the comparatively small number of patients fit for anything but very light work, gardening and work of a similar kind only was done.

Of the patients under treatment a considerable proportion, 35 in number on an average, have been children, nearly all of school age.

The school has proved as in former years a very efficient adjunct in the treatment of 35 children. There has been the same variation in the ages of the children, both boys and girls, and it is much to the credit of the Teacher, Miss Mackay, that the progress has not been confined to the children of a particular age or standard of education.

It is particularly gratifying to find that children backward through continued absence from school before admission, or from other causes, appear to benefit even more than the average.

One boy of 16, who up to nine months ago could neither read or write, even in the most rudimentary fashion, has been taught to read simple passages and to transcribe both script and longhand.

In Summer, in addition to school work, the children are encouraged to take part in simple games in the open air. Croquet and Clock Golf are found to be well favoured and suited to their physical condition.

The following tables, prepared by the Medical Staff of each of the City Hospitals show the number of patients, the nature of the illness, and the results at each of the ten hospitals during the year 1923 :—

CITY HOSPITAL NORTH, NETHERFIELD ROAD.

Visiting Physician, Dr. R. I. RICHARDSON.

Resident Physician, Dr. EDWARD R. PEIRCE.

Diseases.	Remaining Dec., 31st, 1922.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever.	91	846	—	937	53	183	593	108	—	14	1·65
Typhus Fever.	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever.	—	—	—	—	—	—	—	—	—	—	—
Diphtheria ...	—	1	—	1	—	—	—	—	—	1	100·0
Measles ...	—	13	—	13	—	—	11	1	—	1	7·7
Other Diseases	3	20	—	23	—	—	23	—	1	3	15·0
Isolation and Observation Cases ...	—	—	—	—	—	—	—	—	—	—	—
Totals ...	94	880	—	974	53	183	627	109	1	19	2·2

CITY HOSPITAL SOUTH, GRAFTON STREET.

Visiting Physician, Dr. H. A. CLARKE.

Resident Physician, Dr. RITA HENRY.

Diseases.	Remaining Dec. 31st, 1922.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Enteric Fever..	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever.....	42	384	—	426	204	—	168	44	1	10	2·6
Diphtheria	—	—	—	—	—	—	—	—	—	—	—
Measles	28	580	—	608	—	1	519	50	7	38	6·5
Other Diseases.....	—	28	—	28	—	—	26	1	—	1	3·5
Isolation & Observation Cases	5	21	—	26	—	—	25	1	—	—	—
Totals	75	1,013	—	1,088	204	1	738	96	8	49	4·8

FAZAKERLEY SANATORIUM.

Medical Superintendent, Dr. C. RUNDLE.
Principal Resident Medical Officer, Dr. W. CRANE.
Assistant Resident Medical Officers, Drs. A. E. CONNOLLY and B. G. ELLIOTT.

Diseases.	Remaining Dec. 31st, 1922.	Admitted during the year.	Transferred from other City Hospitals	Total under Treatment during the year.	Transferred to Convalescent Hospital	Transferred to other City Hospitals.	Discharged.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Tuberculosis	307	358	6	671	—	—	293	298	—	80	22·4
Other Diseases	—	6	—	6	—	—	5	—	—	1	16·6

CITY HOSPITAL, FAZAKERLEY ANNEXE.

Medical Superintendent, Dr. C. RUNDLE.
Assistant Resident Medical Officer, Dr. ELSIE BURNS.

Diseases.	Remaining Dec. 31st, 1922.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever.....	56	152	232	440	—	—	375	60	—	5	3·3
Enteric Fever	—	1	—	1	—	—	1	—	—	—	—
Diphtheria	—	—	1	1	—	—	1	—	—	—	—
Measles	—	198	—	198	—	47	113	28	—	10	5·05
Whooping Cough ...	—	—	—	—	—	—	—	—	—	—	—
Other Diseases.....	—	16	—	16	—	4	10	1	—	1	6.2
Isolation and Observation Cases	—	—	—	—	—	—	—	—	—	—	—
Totals	56	367	233	656	—	51	500	89	—	16	4·3

CITY HOSPITAL, FAZAKERLEY.

Medical Superintendent, Dr. C. RUNDLE.
Principal Resident Medical Officer, Dr. A. E. HODGSON.
Assistant Resident Medical Officers, Drs. C. ABERNETHY and L. DENIL.

Diseases.	Remaining Dec. 31st, 1922.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever...	135	402	184	721	—	23	598	93	1	7	1·7
Enteric Fever..	5	8	—	13	—	—	9	2	—	2	25·0
Para-Typhoid Fever	—	—	—	—	—	—	—	—	—	—	—
Diphtheria.....	28	174	—	202	—	2	174	22	2	4	2·3
Smallpox	—	—	—	—	—	—	—	—	—	—	—
Measles	3	589	1	593	—	92	423	41	3	37	6·3
Whooping Cough.....	10	70	2	82	—	27	39	3	1	13	18·6
Phthisis	—	—	—	—	—	—	—	—	—	—	—
Other Diseases.	52	571	10	633	—	31	496	49	16	57	10·0
Isolation and Observation Cases.....	2	23	—	25	—	—	22	3	—	—	—
Totals.....	235	1837	197	2269	—	175	1761	213	23	120	6·5

CITY HOSPITAL, DEYSBROOK, WEST DERBY.

Visiting Physician, Dr. W. J. ROBERTSON DUNN.

Diseases.	Remaining Dec. 31st, 1922.	Admitted 1st Jan., to 29th March, 1923	Transferred from other City Hospitals	Total under Treatment 1st Jan., to 29th March, 1923	Transferred to Convalescent Hospital	Transferred to other City Hospitals	Discharged Cured	Remaining at end of year	Died within 48 hours of Admission	Total Deaths	Total Mortality per cent. of Admissions
Scarlet Fever ...	54	2	59	61	—	6	55	—	—	—	—

The tenancy of the Corporation of Liverpool terminated on 29th March, 1923.

PARKHILL SANATORIUM.

Medical Superintendent, Dr. W. HUNTER BROWN.
Assistant Medical Officer, Dr. J. C. HARFORD.

Diseases.	Remaining Dec 31st, 1922.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged.	Remaining at end of year.	Died within 48 hours of admission	Total Deaths.	Total Mortality per cent. of Admissions.
Phthisis	94	106	—	200	—	3	69	96	1	32	30·2

CITY HOSPITAL EAST, MILL LANE, OLD SWAN.

Visiting Physician, Dr. H. A. CLARKE.
Resident Medical Officer, Dr. F. WEIGHTMAN.

Diseases.	Remaining Dec. 31st, 1922.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever.....	7	205	—	212	45	—	130	34	1	2	0·98
Enteric Fever	—	—	—	—	—	—	—	—	—	—	—
Diphtheria.....	71	758	—	829	—	1	588	101	32	69	9·1
Measles	—	11	—	11	—	—	8	1	2	2	18·2
Other Diseases	12	6	—	18	—	—	14	—	2	4	66·6
Isolation and Observation Cases ...	—	21	—	21	—	—	18	2	1	1	4·76
Totals.....	90	1001	—	1091	45	1	758	138	38	78	7·79

CITY HOSPITAL, SPARROW HALL.

Medical Superintendent, DR. C. RUNDLE.

DISEASES.	Remaining Dec., 31st, 1922.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged Cured.	Remaining at end of year.	Died within 48 hours of admission.	Total Deaths.	Total Mortality per cent of Admissions.
Scarlet Fever.....	3	21	27	51	—	1	42	8	—	—	—
Enteric Fever	—	—	1	1	—	—	1	—	—	—	—
Whooping Cough...	11	46	37	94	—	—	74	16	—	4	8·7
Diphtheria.	—	—	1	1	—	—	1	—	—	—	—
Measles	5	21	131	157	—	2	135	20	—	—	—
Other Diseases	20	248	36	304	—	6	273	25	—	—	—
Isolation and Observation Cases	2	2	—	4	—	—	2	2	—	—	—
Total	41	338	233	612	—	9	528	71	—	4	1·2

HIGHFIELD SANATORIUM.

Resident Physician, Dr. H. R. MACINTYRE.

Resident Medical Officers, Drs. MARGT. FERRIER,
ESTHER ASHWORTH
EVELINE F. BEBINGTON and
E. ASHTON.

DISEASES.	Remaining 31st Dec., 1922.	Admitted during the year.	Transferred from Parkhill Sanatorium.	Total under Treatment during the year.	Transferred to Convalescent Hospital	Transferred to other Sanatoria.	Discharged Cured	Remaining at end of year	Died within 48 hours of Admission	Total Deaths	Total Mortality per cent. of Admissions
Phthisis	289	579	...	868	—	3	387	293	—	185	31·9

SANITARY ADMINISTRATION.

For the purpose of carrying out the requirements of the various Sanitary Acts of Parliament and the Orders, Bye-laws and Regulations made thereunder, the following staff of the Medical Officer of Health's Department has been employed during the year.

	Males	Females
*Chief Sanitary Inspector	1	—
*Deputy Chief Sanitary Inspector	1	—
*Prosecuting Sanitary Inspectors	10	—
*District Sanitary Inspectors	34	—
[1]Food Inspectors	9	—
(These Inspectors and the Port Sanitary Inspectors assist in carrying out the provisions of the Diseases of Animals Acts)		
*Inspectors under the Food and Drugs, etc., Acts ...	3	1
* ,, of Cowsheds and Milkshops	2	—
* ,, under the Shops Acts	2	1
* ,, ,, Factories and Workshops Acts	4	—
(These Inspectors are also appointed under the Shops Acts)		
[2]Smoke Inspectors	3	—
[3]Inspectors of Common Lodging Houses and Houses let in Lodgings	17	—
*Inspectors of Canal Boats	1	—
[4]Ambulance and Disinfecting Superintendents and Inspectors	14	—
Motor Ambulance Drivers	7	—
Rat Catchers, &c.	10	—
Men engaged stripping walls and spraying infected houses, limewashing middensteads, etc. ...	17	—
*Notice Servers	3	—
Chief Clerk	1	—
Clerical Staff (Permanent)	29	—
,, ,, (Temporary)	2	4
,, ,, (Health Visitors, etc.)	—	5
,, ,, (Tuberculosis Branch)	2	11
[5]Health Visitors, School Nurses, etc. (Permanent) ...	—	65
[5] ,, ,, ,, ,, (Temporary) ...	—	14

	Males	Females
[6]Inspectors under the Midwives Act	—	2
[7]Ophthalmia Neonatorum Nurses	—	2
Superintendent and Assistants at Infant Milk Centres (Permanent)	1	12
Temporary Assistants at Infant Milk Centres ...	4	31
[8]Nurses at Tuberculosis Institutes	—	5
Caretakers at Tuberculosis Institutes	2	—
,, Ford Street Mortuary	—	1
,, City Laboratories	1	—
Cleaners at City Laboratories	—	6
Staff at Seamen's Dispensary	2	1
Women engaged cleansing Verminous Children ...	—	2
Day Nurseries, Maternity Home and Clinics.		
Matrons	—	11
Deputy-Matrons	—	6
Nurses and Probationers	—	46
Domestic Staff, including Gardener and Cleaners ...	2	60
Sempstresses	—	3
Total number of Staff	184	289

In every case Officers are selected for these positions whose previous training and occupation have been such as to fit them for the special duties they are called upon to discharge. Those marked * are required to hold a certificate affording evidence of adequate sanitary instruction. [1] Have special training in each branch of the work, *i.e.*, Butchers, Fishmongers, Fruiterers, &c., are also certificated. [2] Hold Marine Engineer's First Class Certificates. [3] Several hold the certificate of the Liverpool University School of Hygiene, the Royal Sanitary Institute or an equivalent thereto. [4] The Ambulance Superintendent holds the certificate of St. John Ambulance Association. [5] Fully-trained and Certificated Nurses or other special qualifications. [6] Registered Midwives with special qualifying certificates. [7] Fully-trained Nurses with special training in Ophthalmia Neonatorum. [8] Fully-trained Nurses. The additional certificates usually held by the Health Visitors' Staff, in addition to the certificate of training as a

nurse are those of the Central Midwives' Board, the Liverpool University School of Hygiene, the Royal Sanitary Institute, and, or, the Sanitary Inspectors' Examination Board.

The number of occasions upon which the advice and assistance of the Health Department have been sought has decreased during the year. These applications fluctuate year by year; in 1910 they were 9,354; in 1920, 18,730; in 1921, 20,688; in 1922, 18,934, and in 1923, 17,900. As in former years, complaint in many cases was made to the Health Department only after repeated requests addressed to the persons causing or allowing the nuisance, or to owners or agents of property, had been ignored. A great deal of the time of the Inspectors was taken up by these special examinations.

Requests to examine important public buildings and offices, as well as highly rented dwelling-houses, are numerous, and the application of the smoke test has in many cases brought to light defects in the drainage system.

The District Sanitary Inspectors visit at the earliest possible moment all premises where a nuisance is complained of, and last year 25,146 nuisances were discovered as the result of complaints. Preliminary notices were served either on the owners or the occupiers to remedy 21,493 nuisances. These nuisances were referred to the Prosecuting Inspectors for re-inspection, and where necessary, further proceedings were taken to cause the abatement of the nuisance. The remaining 3,653 nuisances came within the province of other departments, and were referred to those departments to be dealt with.

In addition to the foregoing, the Inspectors, in the course of house to house inspection, discovered 66,825 nuisances, to remedy which preliminary notices were served on either the owner or the occupier. A number of defects were also referred to other departments.

On re-inspection, the number found not abated was 21,778, and statutory notices were served to remedy them. These were again re-inspected by the District Inspectors, and those found not abated were referred to the Prosecuting Inspectors for further action. In addition, all nuisances found in process of being abated, or to which the District Inspector was unable to gain access for re-inspection, were referred to the Prosecuting Inspectors.

The following table shows the number of nuisances found by the District Sanitary Inspectors, and the character of the proceedings taken by the Prosecuting Sanitary Inspectors to abate the nuisances, and the results:—

Number of complaints made by inhabitants	17,900
,, nuisances discovered on above complaints ...	25,146
,, ,, ,, on house to house inspection	66,825
Total nuisances ...	91,971
,, notices issued (Owners)	59,194
,, ,, (Occupiers)	448
Total notices ...	59,642
,, notes to complainants	81
,, visit to premises under observation	804
,, incidental calls	20,683
,, special nuisances referred to Prosecuting Inspectors	21,493
,, ordinary nuisances referred to Prosecuting Inspectors	23,394
Total	44,887
,, visits made by Prosecuting Inspectors, *re* special reports	48,095
,, visits made by Prosecuting Inspectors, *re* ordinary reports	30,105
Total	78,200
,, re-inspection of nuisances	118,147
,, nuisances abated on first re-inspection	41,753
,, notes sent to comply with notices	4,421
,, re-tests of drains after compliance with notices...	17
,, Informations laid	197
,, Magistrates' Orders	156
,, fined	17
,, acquitted or withdrawn	24

The nuisances dealt with comprise, mainly, defective and choked drains, sink waste pipes and spouts; defective roofs; defective flagging and paving; defective water-closet basins, putty joints, walls, floors, seats and doors; defective or dirty cisterns; defective supply pipes; insufficient or no supply of water; defective chimney flues; offensive matter, animals or poultry on premises; also dirty floors, etc.

REFERENCES FROM OTHER DEPARTMENTS.

The references from the other departments, mainly comprised insanitary conditions discovered by officers belonging to those departments, but with which it was not within their province to deal.

Received from	Education Department	14,909
,,	City Engineer	4,198
,,	Water Engineer	2,482
,,	Lodging House Inspectors...	9,033

The references from the Education Department relate to school children said to be suffering from Measles, Whooping Cough, Ringworm, skin diseases, neglect, etc.

REFERENCES TO OTHER DEPARTMENTS.

The number of matters referred to other departments was:—

Referred to	City Engineer	8,114
,,	Building Surveyor	5,627
,,	Water Engineer	8,319
,,	Education Department	25,433

The references to the Water Engineer comprise mainly defective fittings, resulting in waste of water; also cases in which the supply was insufficient owing to various causes.

The references to the City Engineer consist principally of choked main drains and street gullies, and defective street and passage pavements; the references to the Building Surveyor concern dangerous walls, floors, roofs, &c.

The references to the Education Department chiefly relate to children from infected houses who are attending school.

SPECIAL VISITS.

Number of visits to railway carriages	766
,, ,, ,, platforms (fish arrivals) ...	149
,, ,, poultry depots	578
,, ,, manure depots	307
,, ,, marine stores	1,211
,, ,, fried fish shops	1,366

EXAMINATION OF CELLARS AND CELLAR DWELLINGS

Number of inspections of street cellars	16,114
,, found illegally occupied	82
,, of inspections of court cellars	715
,, found illegally occupied	1
,, of notices issued to cease letting or occupying ...	30

HOUSE TO HOUSE INSPECTION.

The following table indicates the results of the systematic house-to-house visitation by the District Male Staff:—

Number of street houses examined	130,826
,, court houses examined	1,630
Total	132,456
Number of apartments examined	645,090
,, houses where nuisances existed	13,413

INFECTED HOUSES.

The following table shows the number of houses visited where notifiable infectious diseases had occurred; also the number of visits to these houses, and to houses where cases of non-notifiable infectious diseases had been reported to the Department by the Education Department:—

Number of street houses where notifiable diseases occurred...	18,438
,, court houses where notifiable diseases occurred	345
,, visits to infected houses and cellars (notifiable cases)	21,718
,, visits to infected houses and cellars (School cases)	11,211
,, visits and re-visits to Phthisis cases	7,676
,, enquiries *re* suspected Smallpox contacts ...	2,363
,, of other enquiries	108

COURT AND ALLEY EXAMINATIONS.

Number of inspections of Courts and Alleys	18,136
,, ,, water-closets	34,589
,, water-closets found dirty, but cleansed by Officer's instructions	22,320

Special and systematic visits to courts and alleys are made with the object of ensuring the cleanliness of the domestic offices and the surface of the courts. The aim is to keep the courts and alleys uniformly clean throughout the week, and with this view the district inspectors are instructed that every tenant in each court is in turn to be held responsible for the cleanliness of the water-closets for a period of one week; the inspector records in his visiting book whose turn it is, and duly informs that tenant.

In 1890 there were 2,165 courts and alleys in the City, this number has been reduced to 372, and shows a diminution of 1,793 courts and alleys.

The exteriors of all courts and alleys are limewashed as often as may be necessary.

Number of exteriors of courts and alleys and walls of premises contiguous to courts and alleys requiring limewashing	575
,, exteriors of houses requiring limewashing ...	2,278
,, interiors of water-closets requiring limewashing	992
,, notices issued to limewash	575

SMOKE NUISANCES.

Proceedings for the abatement of nuisances caused by the emission of excessive smoke from factories, steamers and steam waggons were taken under the following Acts :—

The Liverpool Corporation Act, 1921, Sections 472 and 473.

The Highways and Locomotives (Amendment) Act, 1878, Section 32.

REPORTS OF EXCESSIVE SMOKE.

Number of reports *re* Factories	59
,, ,, Steamers in river	94
,, ,, Steamers in dock	24
,, ,, Steam Waggons	2
Total	179

Admonished by the Health Committee or written to in respect to nuisances caused by the emission of excessive smoke:—

Manufacturers	6
Steamship Owners	56
Steam Waggon Owners	—
Total	62

Number of Cautions to Manufacturers	628
,, ,, Steamship Owners	87
,, ,, Steam Waggon Owners	5
Total	720

INFORMATIONS FOR EXCESSIVE SMOKE.

Information against Occupiers of Factories	69
,, ,, Owners of Steamers in river	5
,, ,, Owners of Steamers in dock	76
,, ,, Owners of Steam Waggons	1
Total	151

Acquitted or withdrawn—Factories	4
,, ,, Steamers	1
,, ,, Steam Waggons	1
Total	6

Number of Fines—Factories			55
,, ,, Steamers			80
,, ,, Steam Waggons			—
Total			135
Amount of Fines—Factories	£42	2	0
,, ,, Steamers	50	10	0
,, ,, Steam Waggons		—	
Total	£92	12	0

It is the duty of the Police to deal with nuisances arising from the emission of smoke from domestic chimneys.

SMOKE INSPECTION.

The number of references and complaints received relating to defective house flues is still considerably on the increase. When a nuisance is found to exist, a notice is sent to the property owner to abate same. Each of these complaints entails at least four visits, and a considerable proportion of the Inspectors' time is thus taken up.

Complaints received of nuisances caused by smoke from the defective state of house flues, low chimneys, etc. ...	789
Visits relating to same	5,074
Chimneys raised in consequence of complaints received ...	81
Flues altered or repaired	640
Complaints under observation	31
Complaints referred to other departments	24
Complaints not sustained	13
Total complaints	789

The smoke in our atmosphere is very largely contributed to by the combustion of coal in domestic firegrates, steam boiler furnaces, and other furnaces used for manufacturing purposes (see page 160).

It is a common error to lay the blame of the pollution of the atmosphere by smoke entirely upon the factory chimney; and this is no doubt due to the fact that it is more easily noticeable than the individual small quantities of smoke emitted from dwelling-house chimneys. These latter emit a considerable quantity in the aggregate.

Out of 118 cases of excessive smoke from steamers, 37 related to foreign-going steamers in dock and in the river. No proceedings were taken on this account, but the owners were communicated with in respect to the nuisance.

SMOKE ABATEMENT.

In the past year, with a general trade depression, many of the factories in the City were closed down during a portion of the year, whilst others were only working part-time.

Several large factories have been fitted with new boiler plants, and efficient auto-stoking arrangements, with beneficial results.

Smoke nuisance from steam waggons traversing the thoroughfares has now been reduced to a minimum. Though there are fewer waggons working, careful stoking on the part of the drivers, together with adequate supplies of smokeless fuel, have improved the conditions considerably.

Greater attention has been given to steamers in dock, and river craft during the past year, as will be seen by the number of prosecutions. Irish-owned and Irish-bound vessels are now considered in the category of "foreign-going vessels." One of the difficulties in dealing with river craft is that the Inspector is unable to board the steamer or communicate with offenders.

ATMOSPHERIC POLLUTION.

The analyses of the deposits collected from the atmospheric pollution gauge at the North Tuberculosis Dispensary in Netherfield Road are shown in the table below. This is the third complete year's record since the gauge was reinstalled at the end of the war. It will be seen that deposits of soot and other material fell on every square mile of that part of the City in amounts averaging 59 tons per month, as against 46 tons in 1922.

The collected rainwater was acid on five occasions. The acidity is mainly due to the combustion of the sulphur compounds in coal. It is this acidity which has such a deleterious action on bronze statues and stone work containing large amounts of Carbonate of Lime.

It will be seen that about one-third of the deposits consists of mineral matter. The remainder is mainly sooty matter derived, in residential districts, mostly from domestic fires consuming coal. Relief is mainly to be sought in the increased use of electricity, of gas, and of smokeless fuels. These particles of suspended matter assist in the production of fogs and diminish to a considerable extent the amount of sunlight received, especially tending to cut off the ultra violet rays, whose action tends to prevent rickets and other affections.

RESULT OF ANALYSES BY THE CITY ANALYST (Results Calculated in Tons per Square Mile).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Totals for 12 months.
Sum Total Solids	40·148	53·738	120·298	61·672	90·792	60·095	39·136	52·893	37·691	40·912	69·780	43·997	711·152
Undissolved Matter—													
Tarry Matter and Bitumen	0·579	0·663	0·410	0·540	0·767	0·240	0·487	0·454	0·520	0·586	1·254	0·878	7·378
Other Organic Matter	8·569	11·934	30·964	33·717	17·860	13·529	8·037	9·281	7·900	8·487	14·280	8·017	172·575
Mineral Matter	15·292	24·768	71·954	14·094	46·335	34·229	15·619	21·684	13·510	12·773	30·350	11·135	311·743
Total Undissolved Matter ...	24·440	37·365	103·328	48·351	64·962	47·998	24·143	31·419	21·930	21·846	45·884	20·030	491·696
Dissolved Matter—													
Organic Matter by Ignition	6·416	5·459	4·665	4·029	9·934	3·891	5·414	10·106	6·306	6·357	9·371	7·191	79·139
Mineral Matter	9·292	10·914	12·305	9·292	15·896	8·206	9·579	11·368	9·455	12·709	14·525	16·776	140·317
Total Dissolved Matter	15·708	16·373	16·970	13·321	25·830	12·097	14·993	21·474	15·761	19·066	23·896	23·967	219·456
Alkalinity as NH_3	—	—	0·181	0·156	1·686	0·117	0·176	0·104	0·071	—	—	—	2·491
Acidity as H_2SO_4	0·265	0·219	—	—	—	—	—	—	—	0·390	0·688	0·877	2·439
Chlorine as C_1	2·981	2·257	1·660	1·535	2·068	1·502	1·476	2·088	2·713	2·626	5·653	3·401	29·960
Ammonia as NH_3	0·410	0·540	0·252	0·336	0·629	0·339	1·236	0·642	0·721	0·675	0·696	0·663	6·139
Sulphate as SO_3.....	4·097	5·388	5·388	4·306	7·160	3·832	4·717	5·992	4·638	5·908	5·791	7·405	64·622
Lime as CaO	1·216	1·586	2·968	1·703	2·480	1·392	1·249	1·262	0·897	1·854	1·874	1·496	19·977
Rainfall { Millimetres ...	43·37	89·19	41·59	60·73	97·36	16·59	81·66	82·55	88·28	103·80	91·87	117·49	914·48
Rainfall { Inches	1·71	3·51	1·64	2·39	3·83	0·65	3·21	3·25	3·47	4·08	3·61	4·62	35·97

OFFENSIVE TRADES.

The number of inspections of premises where offensive trades are carried on was 1,428.

Number of Applications for permission to carry on Offensive Trade	4
Number of Applications granted	4
,, ,, refused	—

In cases in which permission is granted, conditions are imposed requiring that the premises be put in order to the satisfaction of the City Engineer, Building Surveyor and Medical Officer of Health, that no public or private nuisance be caused, and that the business be discontinued whenever the Council shall so require.

DETAILS OF VISITS.

Number of visits to	Bone Boilers	43
,,	Bone Stores	63
,,	Destructors	8
,,	Dripping Factories	104
,,	Fat and Tallow Melters	321
,,	Fellmongers	15
,,	Fertiliser Works	15
,,	Fish Oil Works	15
,,	Gut Scrapers	119
,,	Ham Cooking and Potted Meat Works	--
,,	Hide and Skin Works	50
,,	Knackers' Yard	77
,,	Lard Refiners	13
,,	Oil Refining	21
,,	Oleo-Margarine Works	15
,,	Paint and Resin Works	2
,,	Palm Oil Works...	1
,,	Patent Manure Works	2
,,	Rabbit Skin Stores	15
,,	Soap Boilers	202
,,	Sulphuric Acid Works	2
,,	Tanneries	46
,,	Tar and Naphtha Works	5
,,	Tripe Boilers	108
,,	Turpentine Works	1
	Total	1,263

INSPECTION OF STABLES AND REMOVAL OF MANURE.

Attention has been given to the inspection of stables and the necessity for the frequent removal of manure emphasised.

The number of visits to stables was 9,823, and the number of disinfections of middensteads was 14,415.

The middensteads are sprayed with lime after being emptied.

Administration of the Factory and Workshop Act, 1901, in connection with FACTORIES, WORKSHOPS, WORKPLACES & HOMEWORK

The following Tables are prepared by request of the Secretary of State :—

1.—Inspection of Factories, Workshops and Workplaces.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections.	Written Notices	Prosecutions.
Factories ... ... (Including Factory Laundries.)	4,659	426	—
Workshops ... ... (Including Workshop Laundries).	7,714	1,386	—
Workplaces ... ... (Other than Outworkers' premises included in Part 3 of this Report.)	715	44	—
TOTAL	13,088	1,856	—

2.—Defects Found in Factories, Workshops and Workplaces.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
*Nuisances under the Public Health Acts :**				
Want of cleanliness	721	721	—	—
Want of ventilation	18	18	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	750	750	—	—
Sanitary accommodation—				
Insufficient	40	40	—	—
Unsuitable or defective	604	604	—	—
Not separate for sexes	33	33	—	—
Offences under the Factory and Workshop Acts :—				
Illegal occupation of underground bakehouse (s. 101)...	1	1	—	—
Breach of special sanitary requirements for bakehouses (ss.97 to 100)	1	1	—	—
Other offences ... ... (Excluding offences relating to outwork which are included in Part 3 of this Report)	—	—	—	—
TOTAL	2,168	2,168	—	—

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

3.—Home Work.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.									OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	Lists received from Employers.						Notices served on Occupiers as to keeping or sending Lists.	Prosecutions.							
	Twice in the year.			Once in the year.											
	a Lists.	*a* Outworkers.		Lists.	*a* Outworkers.			Failing to keep or permit inspection of Lists.	Failing to send Lists.	Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).
		Contractors.	Workmen.		Contractors.	Workmen.									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
*															
Wearing Apparel	350	1,128	300	18	43	2	33	—	—	—	—	—	—	—	—
Household linen	2	14	10	1	2	—	—	—	—	—	—	—	—	—	—
Curtains, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Furniture, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electro-Plate	2	10	—	—	—	—	—	—	—	—	—	—	—	—	—
Brass and brass articles	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Umbrellas, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper Bags, etc.	2	6	4	—	—	—	—	—	—	—	—	—	—	—	—
Fur Pulling	2	8	2	—	—	—	—	—	—	—	—	—	—	—	—
Cardboard or Paper Box Making	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Basket Making	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Any Process incidental to above	2	18	2	—	—	—	—	—	—	—	—	—	—	—	—
Total	360	1.184	320	19	45	2	33	—	—	—	—	—	—	—	—

* Several Employers give out work of more than one of the classes specified in column 1, and subdivide their lists in such a way as to show the number of workers in each class of work,the lists are included among those in column 2 (or 5 as the case may be) against the principal class *only*, but the outworkers are assigned in columns 3 and 4 (or 6 and 7) into their respective classes.

a The figures in columns 2, 3 and 4 are the *total* number of lists received from employers who comply strictly with the statutory duty of sending *two* lists each year and of entries of names of outworkers in those lists. The figures in columns 3 and 4 are (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name is often repeated.

4.—Registered Workshops.

Workshops on the Register (S. 131) at the end of the year.	Number.
Workshops	3,405
Cooking Kitchens of Restaurants	349
Bakehouses	621
Total number on Register	4,375

5.—Other Matters.

Class.		Number.
Matters notified to H.M. Inspector of Factories:— Failure to affix Abstract of the Factory and Workshop Acts (S. 133, 1901)		120
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Acts (S. 5, 1901)	Notified by H.M. Inspector ...	145
	Reports (of action taken) sent to H.M. Inspector	145
Other		1
Underground Bakehouses (S. 101):— In use at the end of year		109

FACTORY AND WORKSHOP ACT, 1901.

BAKEHOUSES.

The sanitary control of Bakehouses is dealt with under the Factory and Workshop Act and the Public Health Acts.

During the year 4,206 visits were paid to bakehouses.

Number of Bakehouses on Register, 31st December, 1923	...	621
,, special visits to Bakehouses on complaints	...	66
,, ordinary visits to Bakehouses	...	3,165
,, re-inspections of incorrect premises	... ...	975
Total visits	...	4,206
,, occasions on which Bakehouses were found incorrect	...	1,061
,, sanitary defects found	...	445
,, Notices issued	..	322

All the above notices were complied with by the owners or occupiers.

The number of visits paid to cooking kitchens of restaurants was 715 and 149 kitchens were found incorrect.

SHOPS ACTS, 1912 AND 1913.

During the year 533 complaints have been received, relating principally to the non-closing of shops on the weekly half-holiday.

AMBULANCE AND DISINFECTING STAFF.

There have been 5,713 infectious cases removed by officers of the Ambulance Staff to the Hospitals during the year.

The number of rooms stripped or sprayed was 5,791, and the number of rooms disinfected was 34,096. There were also 2,193 library books disinfected.

The number of articles (bedding, clothing, etc.) disinfected at the Disinfecting Apparatus was 120,897. In addition there were 810 hanks of Hair and 382 bales of Tailors' cuttings.

Two Disinfecting Stations have been established in the City for a number of years, each well equipped to deal with large quantities of material. The North End of the City is served by the Charters Street Station and the South End by the Smithdown Road Station. When necessary the disinfecting apparatus attached to each of the City Hospitals can be utilised.

DISINFECTION OF VERMINOUS PERSONS.

Typhus fever, which is a vermin-transmitted disease, has caused the Ministry of Health and also the American Health Authorities to view the arrival of emigrants and trans-migrants from these countries en route to America with some anxiety.

The Emigration houses where these people are housed, pending the sailing of the vessel, are kept under strict supervision by the Lodging-House Inspectors; they are visited daily, and all cases of infectious illness promptly reported to the Shipping Company's doctor and the Local Health Authority. The bedding is also frequently examined and attention is given to the occupation of the rooms to prevent over-crowding and to ensure cleanliness.

EXTERMINATION OF RATS.

A staff of rat-catchers is systematically employed in the destruction of rats.

The number of rats caught within the City was 17,768 (including those caught in sewers). Of this total 2,725 rats were sent to the City Bacteriologist for examination.

The removal of the foul deep ashpit from the rear of dwellings and the substitution of suitable covered galvanized bins, has not only provided a sanitary improvement, but has also undoubtedly been a material factor in the removal of rats from the proximity to dwellings.

There are special reasons for a constant campaign against rats in Liverpool. The first is the possibility of the spread of plague, a disease which from time to time is, and will continue to be, brought into the Port. The destruction and damage to valuable property, foodstuffs, etc., by means of rats, further justify the stringent measures taken in Liverpool at all times against these vermin, and the maintenance of the special staffs employed by the Health Committee to effect their extermination. In this connection, the co-operation of warehouse owners, and so forth, is always sought and obtained.

Active methods and measures were continued in the more modern warehouses to render the buildings rat-proof or to diminish harbourage and to make nesting difficult. The risk of infection of a district is gauged by the amount of feeding and harbourage afforded to the rats.

With regard to the methods of trapping, the bird-lime tray is quite as effective as any other method, and in regard to poisons it is difficult to say whether one poison has an advantage over another. Barium carbonate is believed by many to be very effective, and is relatively non-poisonous to domestic animals.

BACTERIOLOGICAL EXAMINATION OF RATS.

During the year, the usual examination of rats for plague infection was carried out (see page 214).

The following statement shows the number of rats caught and examined or destroyed in the City during the year:—

Number of rats caught in warehouses, stores, etc.	4,477
,, ,, ,, sewers	6,922
,, ,, obtained from other sources	6,369
	17,768
Number of rats submitted for bacteriological examination	2,725
,, ,, ,, other examination ...	—
,, ,, destroyed	15,043

MORTUARIES.

The Mortuary at the Prince's Dock is for the reception of the bodies of persons who have been drowned, killed or found dead, and upon which the Coroner desires to hold Inquests. Bodies are taken to this Mortuary by the Police, and when it is necessary to make post-mortem examinations.

BODIES REMOVED TO PRINCE'S DOCK MORTUARY.

Number from River.	Number from City.	Total.
17	332	349

The method of transport of the bodies of persons killed, or found dead in the street, has been adequately provided for, the Health Committee having arranged, through the Chief Constable, with a firm of undertakers to supply a hearse on short notice, together with a shell coffin. This arrangement has proved satisfactory.

BODIES REMOVED TO FORD STREET MORTUARY AND DISTRICT MORTUARIES.

Green Lane.	Lark Lane.	Ford Street.	Total.
—	—	457	457

The District Mortuaries are seldom used. For the convenience of juries, as well as for other reasons, it is preferable that bodies should be conveyed to the Central Mortuaries. The Ford Street Mortuary is provided for the reception of bodies which cannot be kept at the homes in which death had taken place, without possible injury to the health of the inmates. It is also used for the reception of stillbirths.

CREMATORIUM.

The Crematorium is situated in Anfield Cemetery, and was opened by the Liverpool Crematorium Company in the year 1896. When the Corporation became the Burial Authority for the City, the administration was taken over in October, 1908, by the Crematorium Sub-Committee.

The number of cremations which have taken place since the opening is shown in the following table:—

1896	2	1911	50
1897	10	1912	52
1898	27	1913	66
1899	23	1914	49
1900	40	1915	53
1901	40	1916	58
1902	54	1917	62
1903	35	1918	70
1904	40	1919	88
1905	35	1920	70
1906	46	1921	74
1907	34	1922	74
1908	32	1923	62
1909	46		1,329
1910	37		

CINEMATOGRAPHS.

The premises licensed by the City Justices have been systematically visited throughout the year, 236 visits having been paid. The visits have been mainly at night, but day inspections have also been made.

Attention has been directed to the ventilation of the auditorium, sanitary convenience and cleanliness, and generally speaking the premises are kept in a satisfactory condition.

COMMON LODGING HOUSES.

In the year 1866 there were 1,278 Common Lodging Houses on the Register. These houses were registered under the Liverpool Sanitary Act, 1844, and the Common Lodging Houses Acts of 1851 and 1853.

Bye-laws were made in 1848 and 1860 to regulate such houses. These bye-laws were repealed in 1869, when new bye-laws were made under powers given by the Common Lodging Houses Acts of 1851 and 1853, and confirmed by the Public Health Act, 1875, Sec. 326, and these remain in force at the present time.

During the year 1867 all Common Lodging Houses not having a separate day room for the use of lodgers, and all houses taking lodgers in and not having this accommodation, were registered as Sub-Let Houses. The cubic space required in Common Lodging Houses was 300 cubic feet per head at that time, as against 400 cubic feet at present.

Further powers to deal with Common Lodging Houses are given under Part 5 of the Public Health Acts Amendment Act, 1907 (adopted in 1912), Sections 69 to 75, particulars of which will be found in the Annual Report for 1913.

Under Sections 69 to 72 of the above Act, 66 keepers were re-registered and 49 deputy-keepers registered.

The Liverpool Corporation Act, 1913, Section 36 (details of which will be found in the Annual Report for 1913), deals with keepers who induce persons suffering from trachoma or other contagious diseases of the eye to become lodgers in a lodging-house.

The Annual Report for 1913 contains a list showing the number of Common Lodging Houses added to and removed from the Register since 1866.

INSPECTION OF LODGING HOUSES.

Lodging-houses on Register, December 31st, 1922	...	171
,, removed from Register during 1923	...	22
,, added to the Register during 1923	...	16
,, on Register, December 31st, 1923	...	165

These houses provide accommodation for 7,098 lodgers.

Visits by Day	7,112
,, Night	834

There were 163 special visits, *re* notified cases of Phthisis, included in the above.

There are 21 houses providing accommodation for 698 women lodgers. For details of Women's Lodging Houses see Reports for the years 1909 and 1914.

LIVERPOOL CORPORATION ACT, 1921.

On the 1st February, 1923, after due notice had been given to every Common Lodging House keeper, Section 504, Part 27 (Police), was enforced as follows :—

1. Girls under the age of 17 years shall not be admitted or received as lodgers into any common lodging house unless and only while and so long as such common lodging house shall have been and be approved and certified for that purpose by the Corporation, and the Corporation are hereby empowered to grant such approval and certificates for such period and subject to such conditions (if any) as they may think fit and to revoke or suspend the same as and when they may think fit.

2. Any person offending against the provisions of this section or failing to comply with any such conditions aforesaid shall be liable to a penalty not exceeding £10 and to a daily penalty not exceeding £2.

3. The provisions of this Section shall be in addition to and not in substitution for any other provisions for the time being in force with respect to common lodging houses.

4. Notice in writing of the provisions of this Section shall be given by the Corporation to every common lodging house keeper.

Three houses have been approved under the above Section by the Chief Constable, and certified by the Medical Officer of Health.

Twenty-one houses which are registered to receive transmigrants have been approved and certified. Many of these are owned or used exclusively by the Shipping Companies.

It has not been necessary to take any legal action under this Section during the year.

SEAMEN'S LICENSED LODGING HOUSES.

The Corporation have made Bye-laws, with the sanction of the President of the Board of Trade, for the licensing of Seamen's Lodging Houses, under the Merchant Shipping (Fishing Boats) Act, 1883, Section 48.

Applications from the keepers of Registered Common Lodging Houses for licenses authorising the designation of such Registered Common Lodging Houses as Seamen's Licensed Lodging Houses, are infrequent, only three such licensed houses now being on the register, providing accommodation for 63 seamen.

The number of licenses granted since the adoption of the Seamen's Lodging House Bye-laws is 33.

It has not been found necessary to institute proceedings under the bye-laws in question.

Some years ago the holders of licenses to keep Seamen's Lodging Houses were authorised by the Board of Trade to board vessels and seek for lodgers, and while this privilege was granted there was an advantage in holding such a license, but that privilege being now withdrawn it does not appear that there is any advantage to the keeper of a Common Lodging House to have his premises registered as a Seamen's Lodging House, hence, probably, the small number upon the register.

HOUSES LET IN LODGINGS.

(SUB-LET HOUSES.)

Overcrowding in sub-let houses was first dealt with under the Nuisance Removal Act, 1855.

The first bye-laws made to deal with these houses were confirmed by the Secretary of State, November, 1866, under Powers given by the Liverpool Sanitary Act of 1866, Section 35. These bye-laws required only 300 cubic feet for an adult person if the room was used as a sleeping apartment only, and 350 cubic feet if used as a combined room, *i.e.*, without a separate day-room. Every person above the age of 15 years was considered an adult and two persons between the ages of 6

years and 15 years were considered one adult. No provision was made for cubic space for persons below 6 years occupying a room as a sleeping apartment, with or without their parents.

These bye-laws were amended in 1869 under the Act of 1866, and further amended in 1885 and 1886 under the Public Health Act, 1875, Section 90. Further amendments were made in 1901 requiring 400 cubic feet for each adult person and 200 cubic feet for every person below 10 years. Powers were also given to deal with non-separation of sexes in lodgers' rooms and to enforce the cleansing of stairs and passages used in common.

These bye-laws were amended in 1911, and additional powers were given requiring 400 cubic feet for *each* person occupying a room which is not exclusively used for sleeping purposes, the separation of the sexes, in rooms occupied by the tenant's family, or in rooms over which he retains possession or control. Lodgers are made responsible for overcrowding, and for the separation of sexes, in rooms let to them, and for the cleansing of the floors, and for the cleansing of the stairs, passages, and landings used exclusively by them.

Powers were also given to enforce the provision of water-closet accommodation (one water-closet for every twelve persons), the lime-washing of walls and ceilings of houses, yards and water-closets at stated intervals.

INSPECTION OF HOUSES LET IN LODGINGS.

Houses on Register, December 31st, 1922	15,802
,, removed from Register during 1923	—
,, added to Register during 1923	537
,, on Register, December 31st, 1923	16,339

DAY VISITS:

Day visits	111,212
Rooms measured	2,345
Floors found dirty	429
Floors found cleansed on revisit	428
Stairs and passages dirty	61
Stairs and passages found cleansed on revisit	60

Informations were laid for breaches of the bye-laws as follows:—

Not washing floors	21
Not sweeping floors	16
Not cleansing stairs, passages	14

NIGHT VISITS:

Night visits (between 11-45 p.m. and 2 a.m.)	24,118
Number of nights on duty	129
Cases of overcrowding found	1,007
Visits to instruct how to arrange so as to abate overcrowding	941
Cases of overcrowding abated on re-inspection	920
Informations laid for overcrowding	35
Convictions for overcrowding	28
Discharged	3
Withdrawn	4

DETAILS OF OVERCROWDING:

Overcrowding by families occupying 1 room	199
,, ,, ,, 2 rooms	490
,, ,, ,, 3 or more rooms ...	305

NON-SEPARATION OF SEXES:

Cases found	166
Visits to instruct how to re-arrange so as to separate the sexes	160
Cases abated on re-inspection	153
Informations laid	19
Convictions	16
Discharged	2
Withdrawn	1

During the year the Department has been instrumental in finding other accommodation for lodgers' families occupying overcrowded and indecently occupied rooms and for persons ordered by the tenant to give up possession of their rooms.

CLEANSING OF WALLS AND CEILINGS.

During the year the following Notices were served on Landlords of houses let in lodgings under Section 7 of the 1911 Bye Laws:—

Preliminary notices to cleanse walls and ceilings ...	23
Houses cleansed	17
Rooms cleansed	120

The following table shows the number of Houses let in Lodgings on the Register, together with the number of visits for the prevention of overcrowding for the past 11 years :—

Year.	No. of Houses let in Lodgings on Register.	No. of night visits for prevention of overcrowding.	No. of convictions for overcrowding.	Percentage of convictions to number of visits.
1913	16,405	22,938	660	2·87
1914	16,492	24,309	693	2·85
1915	16,626	21,659	595	2·74
1916	16,827	22,199	636	2·86
1917	16,635	21,746	508	2·33
1918	16,870	19,524	220	1·12
1919	14,636	23,350	191	0·81
1920	15,080	24,596	85	0·34
1921	15,332	24,851	45	0·18
1922	15,802	23,910	50	0·20
1923	16,639	24,118	28	0·11

The Annual Report for 1913, contains a list shewing the number of "Houses let in Lodgings," added to and removed from the Register since 1866.

CANAL BOATS ACTS, 1877 and 1884, and CANAL BOATS ORDER, 1922.

The Leeds and Liverpool Canal Company are the proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the City, exclusive of locks which lead to the docks, is about three miles.

The number of inspections of canal boats during the year was 4,632, and the condition of the boats and their occupants as regards matters dealt with in the Acts and Regulations is indicated in the following information :—

Boats on Register, 1st January, 1923		356
New Boats registered		16
Boats removed from Register :—		
Broken up	8	
Left the District	2	
Not used as dwellings	5	
	—	15
Boats on Register, 31st December, 1923		357
,, not seen in the district		85
,, regularly plying on the Canal		272
,, re-registered on account of change of owners ...		4
,, on which contraventions occurred...		48*

Nature of contraventions :—

Unregistered boats used as dwellings	1
No certificates of registration on board	8
Registered lettering, &c., not legible	4
Leaky decks	22
Defective decklight	1
,, bed berths	2
,, bulkheads	2
,, stoves	5
,, lockers	1
Cabins requiring re-painting	11
No water cask	2
Dirty condition of cabin	2
Indecent occupation of cabin	1

* Of this number 31 were registered by other Authorities.

Written notices were issued to Owners in 41 instances.

Verbal notices were given to Masters in 7 instances.

No informations were laid during the year against Owners or Masters for infringements of the Acts and Regulations.

No cases of infectious sickness were reported as having occurred during the year on any canal boat visiting the district.

One motor-propelled boat is registered by this Authority.

DETAILS OF VISITS TO CANAL BOATS FOUND ON CANAL.

Three hundred and eighty boats found plying on the Canal were visited. These boats were registered as follows :—

272	registered at	Liverpool.
20	,,	Runcorn.
16	,,	Leigh.
15	,,	Wigan.
4	,,	Manchester.
6	,,	Chester.
26	,,	Blackburn.
2	,,	Burnley.
2	,,	Northwich.
1	,,	Widnes.
16	,,	Leeds.
380		

All these boats were "Wide" boats—8 being propelled by steam, 40 steam-towed, 4 motor driven, and the remainder horse drawn.

The number of inspections of these 380 boats was 3,738, and the population was as follows :—

Men ...	...	623
Women	...	194
Children	...	123
940	persons, detailed as follows :—	

Males over 14 years of age ...	...	...	623
,, ,, 5 and under 14	...	...	15
,, under 5 years of age	...	...	53
Females over 12 years of age	...	...	194
,, ,, 5 and under 12	...	...	11
,, under 5 years of age	...	...	44
			940

NOTE.—Males on attaining the age of 14 years, and females 12 years, living on canal boats, become adults, and are recorded as such in the above Table (Regulation III., Section 2, Canal Boats Act, 1877).

Twenty-six children of school age were found on Canal Boats during the year. These were on trips with their parents during the school holidays.

No boat was found on the canal or river, or in the docks, with families on board who had not a home ashore in addition to that on the boat.

In 1898 the Canal Boat Inspectors were appointed as Port Sanitary Inspectors—an appointment which authorised them to inspect all classes of boats—as a difficulty arose in connection with certain boats plying upon the canal which were not registered under the Canal Boats Acts, but which had been registered by the Board of Trade under the Merchant Shipping Acts. Fifty inspections were made of boats of this class, previous to the issuing of the Canal Boats Order, 1922, by the Ministry of Health on the 1st May, 1923, which brought these boats under the Canal Boats Acts. Fifteen boats have been registered as Canal Boats under this Order during the year.

In 1903 the Port Sanitary Inspectors were appointed as Canal Boat Inspectors. This appointment authorised them to inspect canal boats which ply to and from the docks and on the river. During the year, 842 inspections were made by these Inspectors, and they are included in the 4,632 visits made to canal boats. The number of contraventions for which written notices were served on the owners was 38 in connection with 30 boats.

SUPERVISION OF FOOD SUPPLIES.

The supervision and inspection of food stuffs intended for human consumption has received the close attention of the staff throughout the year.

The provisions of the Public Health Acts, 1875, 1890 and the Liverpool Corporation Act, 1921, impose on the Medical Officer of Health, the duty of food inspection and empower him to seize unsound food; this work has been efficiently carried out by a well qualified and experienced staff of Food Inspectors.

The staff consists of one Chief Food Inspector and eight assistants, there being at the present one vacancy caused by one of the Food Inspectors being transferred to the Veterinary Department for the purposes of the Diseases of Animals Act. The City is divided into six districts, with an Inspector in charge of each, there is also an Inspector supervising each of the three Wholesale Markets, viz. :—Meat, Fruit and Fish.

The system now in operation ensures the inspection of all meat whether slaughtered within the City or sent in already prepared for sale from Birkenhead or country districts During the busy hours, viz., 7 a.m. to 10 a.m., at the Abattoirs, it is possible to have seven Inspectors on duty. This ensures that all organs and carcases are thoroughly examined, and also that there is no delay in having the meat inspected, passed, and ready for the early morning trade.

The same system applies to the Fruit and Fish Markets, Inspectors being sent from one market to another as occasions arise. Saturday evenings are also occasions for special inspection, and the shops and markets are systematically inspected every Saturday until 9 p.m. It has been necessary throughout the year to have one or two, and during the Christmas trade, a greater number of Inspectors on duty on Sundays at the Abattoirs and Private Slaughterhouses. Sunday is still one of the busiest slaughtering days at the Abattoir, no doubt due to the absence of cooling rooms in connection with the Abattoirs. This practice will probably cease when the new Abattoir, with refrigerator accommodation, is provided at Stanley.

The necessity for an organised system of food inspection will be appreciated by a perusal of the following figures :—

During the year, 314,109 animals were slaughtered in the City, 131,684 carcases were sent in dressed from Birkenhead and country districts, and 416,963 imported frozen and chilled carcases were sold from Gill Street Meat Market. Of the animals slaughtered in the City, 1,389 were totally rejected and 1,944 partially rejected.

Independent of the ordinary routine inspections, 1,757 special detailed inspections of carcases were made between June and December.

The duties have not been merely inspectional, but efforts have been made to afford the trades generally information and assistance which would enable them to obviate the possibility of unsound food being sold to the public. The result of this co-operation has been most effective, and the system of food inspection thereby rendered more efficient.

Canned goods, which form an important item in the food supply, have received very careful attention, resulting in 129,413 tins being rejected as unfit for food, and these have either been destroyed or used for animal feeding.

Foot and Mouth Disease during the latter part of the year was the cause of an exceptional demand on the services of the Food Inspection Staff. Liverpool, being one of the nearest large markets to infected areas in Lancashire, Cheshire and Wales, some thousands of animals which were not affected with Foot and Mouth Disease were slaughtered on the respective farms and sent to the Liverpool market, without the organs, for disposal. All the meat was subjected to a very rigid inspection, and considerable quantities were rejected as unfit for food on account of Tuberculosis, inflammatory conditions, and decomposition.

Foot and Mouth Disease was discovered by the Chief Food Inspector, on Monday, December 24th, 1923, amongst the animals awaiting slaughter at the Abattoir. This occurrence necessitated the immediate slaughter of all the arrivals—1,420—in the lairages. The work was carried on continuously night and day until completed on Wednesday night, December 26th, under the constant supervision of the Food Inspection Staff. During and after completion of slaughtering the Abattoirs and Lairages were thoroughly cleansed and disinfected,

and owing to the close co-operation between the Food Inspection and Market Staffs the Wholesale Meat Market was opened for the sale of meat at 8 a.m. on Thursday, December 27th. The lairages were cleansed and disinfected and the slaughter of live animals commenced again on December 29th, 1923.

ABATTOIRS.

There are 17 Private Slaughterhouses in the City, in addition to the Central Abattoir. Three of these Private Slaughterhouses are used solely for the slaughter of horses for export to France and Belgium, and only six of the remainder are used to any great extent.

The Private Slaughterhouses have been well conducted, and kept in good condition, but most of them are situated in cramped, congested areas, and are not suitable places for the slaughter of animals.

Much time is taken up in the inspection of these places and of the animals slaughtered in them, but, owing to the congested and insanitary state of the Central Abattoir, it has been found necessary to keep them in use until such time as a new Public Abattoir is built commensurate with the trade of the City.

The Central Abattoir and associated offensive trades remain in the same insanitary and congested condition which has been so frequently commented upon. Every effort is made to minimise the nuisances inseparable from the conduct of business of this kind in situations which are cramped, confined, and unsuitable, but these efforts result in very little good, as the nature of the operations must necessarily cause nuisance when the premises are situated as these are. During the year the Abattoirs and Lairages have been systematically cleansed and repaired, but it is impossible to make the existing buildings into premises suitable for the slaughter of animals and the sale of carcases for human food. The only remedy lies in the building of new premises on a suitable site in keeping with other Public Health work in the City.

The Markets Committee have now before them a comprehensive scheme for the erection of a new Abattoir, Meat Market, and Lairages, on the site of the existing Cattle Market at Stanley. During the year much time has been spent and great progress made on a subject that has been discussed periodically during the last 20 years; various plans have

been prepared, thoroughly discussed, and agreed to by the trades concerned, and are now ready to be presented to the City Council. The Stanley site, together with an adjoining piece of land, which has been bought by the City Council, has been cleared, and unnecessary obstructions taken away in preparation for the erection of the new buildings. It is hoped that there will be no further delay in bringing into operation this eminently desirable reform.

The shops and premises in which foodstuffs are prepared and sold have generally been kept in good condition, and the tendency to handle foodstuffs in a more hygienic manner is on the increase.

The following table shows the number of Private Slaughterhouses in the City, viz. :—

SLAUGHTERHOUSES.

	1914	Dec. 1922	Dec. 1923
Registered ...	5	5	5
Licensed ...	13	12	* 12

* Three of the Licensed Slaughterhouses are used exclusively for the slaughtering of horses for export.

The following tables show the quantities of foodstuffs dealt with during the year :—

ANIMALS SLAUGHTERED FOR HUMAN FOOD IN THE CITY.

	Bulls.	Bullocks.	Cows.	Heifers.	Calves.	Sheep.	Lambs.	Swine.	Horses.
Public Abattoir	769	6,622	7,410	2,475	28,689	45,821	161,373	27,997	—
Private Slaughter-houses ...	5	141	868	115	2,097	609	6,158	22,960	2,038
TOTAL ...	774	6,763	8,278	2,590	30,786	46,430	167,531	50,957	2,038

Total number of animals slaughtered in the City = 314,109.

IMPORTED MEAT SOLD IN MEAT MARKETS.

	Cattle.	Calves.	Sheep.	Lambs.	Swine.
*Abattoir (Irish and Birkenhead dressed)	19,347	4,888	38,907	55,050	11,261
Gill Street (Imported Frozen and Chilled)	63,987	—	145,555	205,046	2,375
Retail Shops	76	309	166	96	1,584
TOTAL	83,410	5,197	184,628	260,192	15,220

* Including Animals slaughtered owing to the Foot and Mouth Disease Restrictions.

ANIMALS IMPORTED, SLAUGHTERED AND SOLD FROM THE MEAT MARKETS AND PRIVATE SLAUGHTERHOUSES.

Cattle.	Calves.	Sheep.	Lambs.	Swine.
101,815	35,983	231,058	427,723	66,177

During 1923, 2,038 horses were slaughtered for export to France and Belgium. These carcases were inspected and passed by the Food Inspectors, with the exception of 78, which were rejected as unfit for human food.

IMPORTED MEAT AND OFFAL SOLD IN BOXES AND BAGS AT THE MEAT MARKETS.

	Boxes and bags.
Abattoir (Irish and Birkenhead)	10,531
Gill Street (Frozen) Imported	68,878
Retail Shops	249
TOTAL	79,658

During the year, 2,194 fat cows from cowsheds in the City were slaughtered at the Abattoir, with the following result :—

Cows slaughtered.	Totally Condemned.	Partially Condemned.	Number affected with Tuberculosis. Totally and partially condemned
2,194	93	78	132

In all cases in which animals from local cowsheds were slaughtered in the City, and which on post-mortem examination were found to be diseased, the facts were sent to the Veterinary Department and the disinfection of the stall carried out under their supervision.

The following carcases were seized or surrendered for various causes :

Cattle	Calves.	Sheep.	Swine.	Goats.	Horses.	Total.
291	341	345	331	3	78	1,389

ANIMALS SENT TO KNACKERS' YARD AT CARRUTHERS STREET FOR DESTRUCTION.

Horses destroyed.	Horses sent in dead.	Asses destroyed.	Cows destroyed.	Other animals destroyed.	Total.
74	812	14	242	47	1,189

In all cases where carcases were condemned at the Abattoir and Private Slaughterhouses on account of their diseased condition, the history of each animal was obtained and a record kept.

The following table shows the result of the examination of carcases of diseased or injured animals totally or partially rejected :—

Condition.	Bulls.	Bullocks.	Cows.	Heifers	Calves	Sheep	Swine	Goats	Horses
Abscess	...	...	...	...	...	1	...	...	...
,, Partial ...	...	2	5	...	...	1	100	...	...
Anaemia	...	...	1	...	...	...	...	...	...
Arthritis, Septic ...	...	...	8	3	16	1	6	...	...
Asphyxia	...	2	1	...	35	94	22	...	1
Decomposition	...	3	1	1	4	81	140	...	1
,, Partial	...	2	66	...	...	25	261	...	...
Distomatosis	...	...	...	...	...	11	...	...	...
Dropsy	1	...	29	3	22	64	9	...	22
Emaciation.....	...	...	14	1	57	71	32	3	42
Enteritis	...	...	1	...	2	3	1	...	...
Fistular	...	...	...	...	...	...	1	...	...
Gangrene	1	...	...	...	...	2	...	...	...
Gastritis	...	...	...	...	...	1	...	...	...
Gastro Enteritis ...	...	...	1	...	8	3	13	...	...
Icterus	...	...	2	...	54	...	15	...	...
Immaturity	...	...	...	...	76	...	...	...	...
Injury	...	...	2	...	9	3	4	...	...
,, Partial	...	7	152	...	16	67	385	...	8
Johne's Disease.....	...	...	2	...	...	...	...	...	...
Leukaemia	...	...	...	...	...	1	...	...	...
Lymphangitis	...	...	...	...	...	...	...	...	1
Lymphoma	...	...	...	...	...	1	...	...	...
Mastitis, Septic	...	...	2	...	...	...	...	...	...
Melanosis	...	...	...	...	1	1	...	...	...
,, Partial ...	...	...	2	...	...	...	...	...	...
Navel Ill	...	...	...	...	2	...	...	...	...
Necro-Bacillosis ...	...	...	1	...	2	...	...	...	...
Parturient Apoplexy	...	...	2	...	...	...	...	...	...
Pericarditis, Septic	...	...	6	...	...	...	...	...	...
Peritonitis, Septic	1	...	6	...	8	4	3	...	...
,, Partial	...	...	2	...	...	...	...	...	...
Pleurisy	...	...	...	...	1	1	2	...	1
Pneumonia	...	...	1	...	2	...	1	...	2
Pyaemia	...	1	1	...	1	1	5	...	...
Pyrexia	1	1	21	...	10	1	7	...	7
Septicaemia	...	...	3	...	...	...	1	...	...
Swine Erysipelas ...	...	...	...	...	...	...	2	...	...
,, Fever	...	...	...	...	...	...	1	...	...
TraumaticMammitis	...	...	3	...	...	...	...	...	...
Tuberculosis	...	4	153	7	31	...	66	...	1
,, Partial	4	11	209	7	...	...	612	...	...

The following table shews from which districts tubercular cattle, calves and swine came to Liverpool and were totally rejected as unfit for human food :—

Where from.	Cattle.	Pigs.	Calves.
Liverpool	70	13	4
Ireland	44	26	—
Preston	—	1	14
Saughall Massie...	1	—	—
Wrexham	3	—	2
Chester	—	—	5
Isle of Man	8	—	—
Wales	2	3	—
Beeston	—	3	—
Other Districts	30	17	6
TOTAL	158	63	31

ORGANS DESTROYED.

Disease.	CATTLE.								
	Bulls.	Bullocks.	Cows.	Heifers	TOTAL	Calves	Sheep	Swine	Horses
HEADS :—									
Tuberculosis	4	49	434	12	**499**	...	...	...	...
Abscess	2	11	137	2	**152**	...	...	...	...
Actinomycosis ...	3	...	5	1	**9**	...	...	...	...
Decomposition ...	...	1	4	1	**6**	...	205	...	...
Injury	...	...	1	...	**1**	...	...	...	...
Foot and Mouth Contacts	...	...	184	...	**184**	...	4	50	...
LUNGS :—									
Tuberculosis	4	47	1,090	20	**1,161**	6	...	326	...
Abscess	...	6	122	1	**129**	3	4	3	...
Cysts	1	31	610	4	**646**	...	4	13	...
Pleurisy	1	...	13	...	**14**	3	...	4	...
Pneumonia	...	...	5	...	**5**	...	...	18	...
Congestion	3	22	144	1	**170**	6	10	320	...
Decomposition ...	...	1	69	1	**71**	6	528	1,014	...
Emphysema	...	1	30	...	**31**	...	...	...	...
Melanosis	...	1	6	...	**7**	1	...	...	...
Parasitic	...	...	...	...	...	1	2	8	...
Adhesions	...	...	...	...	...	...	...	1	...
LIVERS :—									
Tuberculosis	2	34	390	10	**436**	8	...	305	...
Abscess	2	24	249	4	**279**	4	7	8	...
Distomatosis	2	216	2,254	22	**2,494**	2	440	6	...
Cav. Angioma ...	...	12	527	2	**541**	...	1	6	...
Cirrhosis	4	87	453	7	**551**	8	11	246	...
Echinococci	...	6	193	4	**203**	...	7	22	...
Decomposition ...	...	17	532	1	**550**	5	519	1,015	...
Fatty Infiltration	...	2	33	1	**36**	...	1	...	...
Parasitic	...	...	1	...	**1**	2	60	26	...
Mal. Neoplasms...	...	...	1	...	**1**	...	...	...	...
Chronic Venous Congestion	...	...	2	...	**2**	...	...	...	...
Adhesions	...	...	...	...	...	...	...	1	...
HEARTS :—									
Tuberculosis	2	9	203	6	**220**	6	...	326	...
Pericarditis.....	...	1	20	...	**21**	1	1	...	...
Injury	...	...	1	...	**1**	...	...	...	...
Decomposition ...	...	14	181	1	**196**	5	515	1,014	...
Anæmia	...	...	1	...	**1**	...	...	...	...
Adhesions	...	...	1	...	**1**	...	...	...	...
Abscess	...	...	...	...	...	2	2	...	...
Cysts	...	...	...	...	...	...	...	1	...
Parasitic	...	...	...	...	...	1	...	7	...
SPLEENS :—									
Tuberculosis	2	13	271	12	**298**	...	...	326	...
Congestion	...	1	15	...	**16**	...	...	...	...
Decomposition ...	...	8	181	1	**190**	...	...	...	...
Adhesions	...	...	1	...	**1**	...	...	...	...

ORGANS DESTROYED.

Disease.	CATTLE.								
	Bulls.	Bullocks.	Cows.	Heifers	TOTAL	Calves	Sheep	Swine	Horses
STOMACHS :—									
Foot and Mouth Contacts	...	...	184	...	**184**	...	4	50	...
Tuberculosis	1	9	263	7	**280**	...	...	326	...
Abscess	...	1	12	...	**13**	...	...	...	...
Cirrhosis	...	...	2	...	**2**	...	...	...	...
Polypi	...	...	1	...	**1**	...	...	...	...
Injury	...	...	3	...	**3**	...	...	...	...
Decomposition ...	...	...	9	1	**10**	...	...	344	...
Haemorrhage ...	...	...	1	...	**1**	...	...	...	...
Chronic Gastritis	...	...	7	...	**7**	...	...	...	...
Cysts	...	...	1	...	**1**	...	...	...	...
Congestion	...	...	9	...	**9**	...	...	...	...
Actinomycosis ...	...	...	1	...	**1**	...	...	...	...
INTESTINES :—									
Tuberculosis	2	39	463	17	**521**	...	...	326	...
Decomposition ...	...	...	4	1	**5**	...	...	...	...
Foot and Mouth Contacts.	...	...	184	...	**184**	...	4	50	...
KIDNEYS :—									
Tuberculosis	4	16	448	12	**480**	...	...	...	...
Abscess	...	...	6	...	**6**	...	...	...	...
Cysts	...	3	119	...	**122**	...	...	2	...
Cirrhosis	...	...	47	...	**47**	2	...	...	...
Nephritis	...	...	21	...	**21**	...	...	...	...
Actinomycosis ...	...	...	1	...	**1**	...	...	...	...
Fatty Infiltration	...	...	1	...	**1**	...	...	...	...
Necrosis	...	...	2	...	**2**	...	...	...	...
Decomposition ...	...	2	15	2	**19**	...	...	98	...
Congestion	...	...	5	2	**7**	1	...	1	...
UDDERS :—									
Foot and Mouth Contacts	...	...	173	...	**173**	...	...	...	...
Tuberculosis	...	...	29	...	**29**	...	...	...	...
Mammitis	...	...	197	...	**197**	...	...	18	...
Abscess	...	...	16	...	**16**	...	...	2	...
Decomposition ...	...	...	83	...	**83**	...	...	10	...
Actinomycosis ...	...	...	...	...	...	...	...	3	...
Injury	...	...	1	...	**1**	...	...	...	...
TONGUES—									
Tuberculosis	...	...	2	...	**2**	...	...	...	...
Abscess	...	...	2	...	**2**	...	...	...	...
Injury	...	...	1	...	**1**	...	...	...	...
Decomposition ...	...	...	...	...	...	...	...	23	...
Foot and Mouth Contacts	...	...	184	...	**184**	...	4	50	...
TAILS—									
Decomposition ...	...	45	...	...	**45**	...	...	...	...
FEET—									
Foot and Mouth Contacts	...	...	736	...	**736**	...	16	200	...

This table does not include the organs of carcases destroyed, or 11,030 lbs. of various organs which were used for industrial purposes.

QUANTITIES OF FISH, RABBITS, POULTRY AND GAME WHICH PASSED THROUGH THE WHOLESALE FISH MARKET.

Fish.				Rabbits.	Poultry.	Game.
Wet. Tons.	Dry. Tons	Shell. Tons.	Salmon. Tons.	No. of Packages.	No. of Packages.	No. of Packages.
17,376	4,020	847	37½	9,514	4,333	352

It is estimated that 5,200 tons of wet fish, 4,960 tons of dry fish, 14,990 bags of shell-fish, 113,540 packages of rabbits, 166,000 packages of poultry, 5,270 packages of lobsters, were sold from premises outside the Fish Markets.

FRUIT AND VEGETABLE MARKETS.

Large consignments from all over the world passed through the Fruit Markets and the wholesale depôts in Queen's Square. Liverpool is the principal distributing centre in the country for imported fruit, and during the year 92,672 tons of vegetables passed through the Vegetable Market.

PREMISES VISITED BY THE FOOD INSPECTORS.

Slaughter houses.	Butchers' shops.	Fruit shops.	Fish & Fruit shops.	Food Hawkers' premises.	Jam factories.	Pickle factories	Food factories	Knackers yards.
7,994	54,529	49,702	35,577	2,638	46	35	1,316	210

COWSHEDS AND COWS INSPECTED BY THE FOOD INSPECTORS.

To June 2nd, 1923. From this date the works was transferred to the Veterinary Department.

Cowsheds visited.	Cows examined.	Found healthy.	Found unhealthy.	Number reported for Veterinary examination.
482	6,715	6,677	38	37

76 samples of foodstuffs were obtained for bacteriological and analytical examination, including fish, shell-fish, meat, animal feeding stuffs, etc.

FOOD STUFFS CONDEMNED.

The following articles were condemned as unfit for human food, viz. : Beef, Mutton, Lamb, etc., 549,428 lbs. ; Wet and Dry Fish, 242,429 lbs. ; Mussels, Cockles, Winkles, 82 packages; Crabs, Lobsters, Prawns, 6,650 lbs. ; Poultry, 1,629 head; Game, 229 head; Rabbits, 9,395 head; Hares, 9 head; Fruit, 516,822 lbs. ; Vegetables, 238,948 lbs. ; Tinned Foods, 129,413 tins; eggs, 7,625; Cheese, 56 lbs. ; Egg Pulp, 11,783 lbs. ; Flour, 3,660 lbs. ; Barley, 173 lbs. ; Baking Powder, 14 lbs.

LIVER FLUKE IN WELSH SHEEP.

During 1921 a serious loss to the Welsh sheep farmers was occasioned by the prevalence of the Liver Fluke (Distomum Hepaticum), and 213 sheep from Wales were rejected at the Liverpool Abattoirs as unfit for food owing to the effects of this parasite.

Great efforts have been made by the Department of Agriculture in North Wales to stamp out this disease, by spraying the pastures and brooks with chemical substances to destroy the small water snail—which the liver fluke infests in one of its intermediate stages of growth. Careful observations on the efficacy of the various treatments have been made, and as a large number of Welsh sheep are slaughtered in Liverpool, and at the request of the North Wales Authorities, very careful examinations were made and records kept by the Food Inspectors

of all the Welsh sheep slaughtered in Liverpool during 1922-23. It is interesting to observe that, so far as the sheep slaughtered in Liverpool are concerned, the disease shows a remarkable decline. The records show the stage of the disease and the districts from which the animals came. Altogether 25,684 sheep were examined, with the following results :—

Year	Number of Animals Examined	1st Period. Immigration 4-13 weeks	2nd Period After 13 weeks Anaemia	3rd Period Loss of Flesh and Condition Oedema	4th Period Emigration Conv'lescence	No of Livers Rejected
1922	13,067	44	180	1	15	240
1923	12,617	13	...	...	29	42

1st period.—The period during which the parasites are entering and establishing themselves in the liver and beginning to produce serious effects on the condition of the animal.

2nd period.—The stage during which marked anæmia or loss of blood is evident.

3rd period.—A subsequent stage to the preceding, when, in many cases, loss of flesh and presence of fluid in the tissues of the body become evident.

4th period.—A stage is finally reached when the lesions produced render the further development and propagation of the parasite difficult, and the flukes gradually disappear, and the animal recovers.

CONTAGIOUS DISEASES OF ANIMALS ACTS.

The work in the City under the Contagious Diseases of Animals Acts was, up to June 2nd, 1923, carried out by the Inspectors who have the supervision of meat and slaughterhouses, but from that date arrangements were made for the Veterinary Officers of the Health Committee to undertake these duties. Two Inspectors were transferred to assist in carrying out the various Acts and Orders, one whose whole time was already being spent on this work, the other from the Food Inspection Staff.

PARTICULARS OF VISITS TO RAILWAY STATIONS, CATTLE MARKET, SALEYARDS, LAIRS, STABLES, MANURE WHARVES AND OTHER PLACES, FOR THE YEAR 1923.

STATISTICS.	Jan. 1st to June 2nd, 1923.
No. of visits to Railway Stations	1,362
,, Cattle Pens Inspected	28,408
,, ,, ,, Found clean	25,063
,, ,, ,, Found dirty	3,345
,, ,, ,, Cleansed before use	3,345
,, Cattle Trucks Inspected	9,159
,, ,, ,, Found clean	7,257
,, ,, ,, Found dirty	1,902
,, ,, ,, Cleansed before use	1,902
,, Horse Boxes Inspected	1,171
,, ,, ,, Found clean	918
,, ,, ,, Found dirty	253
,, ,, ,, Cleansed before use	253
,, Lairs and Saleyards Inspected	1,175
,, ,, ,, Found clean	864
,, ,, ,, Found dirty	311
,, ,, ,, Cleansed before use ...	311
,, Manure Wharves and other places	952
,, Crates of Live Poultry examined	1,178
,, ,, ,, ,, Found defective	290
,, Empty Poultry Crates examined	231
,, ,, ,, ,, Found dirty	44
,, Visits to Stables, Parasitic Mange Order ...	53

ANTHRAX ORDER OF 1910.

Under this Order a number of sudden deaths in the local dairy herds were investigated, and in one instance anthrax was reported to and confirmed by the Ministry of Agriculture. The destruction of the carcase, the cleansing and disinfection of the cowshed, and the burning of contaminated manure, was immediately carried out under the supervision of the food inspectors, and the disease confined to one animal.

ANIMALS TRANSIT AND GENERAL ORDER, 1912.

Regulations are made under this Order for the carriage of cattle, sheep, swine and goats in properly constructed vehicles, and with due regard to the comfort of the animals by absence of overcrowding, the feeding and watering at stated intervals, and care in loading and unloading. It also provides for the cleansing and disinfection of vehicles and premises after use.

EXPORTATION AND TRANSIT OF HORSES, ASSES AND MULES ORDER, 1921.

This Order is very drastic in its requirements, with a view to preventing the continuance of the worn-out horse traffic to the Continent. Liverpool is not a scheduled port for the shipment of horses to the Continent, but a certain number were sent by rail from Liverpool to the ports scheduled in the Order; these were examined by the Veterinary Superintendent and passed as fit to travel by rail.

FOREIGN ANIMALS ORDER, 1910-1912.

The regulations under this Order provide for the landing of foreign animals at special landing places for immediate slaughter, the prevention of landing of manure, fittings, etc., unless by sanction of the Local Authority. Liverpool is not a port at which foreign animals can be landed, and the landing of manure, fittings, etc., is prohibited, hence the numerous visits to manure wharves.

IRISH ANIMALS ORDER OF 1922.

This Order controls the landing and movements of Irish animals. Liverpool is not a port at which Irish animals can be landed; they are landed at Birkenhead and transferred to Liverpool by a movement licence after 10 hours' detention at Birkenhead.

CONVEYANCE OF LIVE POULTRY ORDER OF 1919.

The improvement in the manner of conducting the traffic in live poultry in accordance with the regulations in this Order continues; the Irish trade has also improved by the provision of better crates and less overcrowding than formerly, and is gradually attaining the standard reached by the British live poultry traders.

MARKETS, LAIRS AND SALE YARDS.

A sale of cattle and sheep is held each Monday at Stanley Cattle Market. The class of animals sold has been good, and the market has been well kept and cleansed after each sale. 7,471 cattle and 68,976 sheep passed through the market during the year.

The several saleyards for the sale of milk cows and the lairs for detention of animals for shipment have been kept in good condition.

IMPORTATION OF CANADIAN CATTLE ORDER, 1923.

This Order, as from the 1st April, 1923, permits the landing of Canadian store cattle in this country for distribution.

Liverpool is not a port at which the Canadian cattle may be landed, they must be landed at Birkenhead, and after 10 hours' detention can be transferred to Liverpool or elsewhere by a movement licence. It is hoped in the near future that provision will be made for the landing of Irish cattle on the Liverpool side of the Mersey.

ANIMALS LANDING FROM IRELAND, CHANNEL ISLANDS AND ISLE OF MAN , ORDER, 1923.

This Order takes the place of the Irish Animals Order, 1922, and came into force on 1st April, 1923. It imposes practically the same conditions on animals from Ireland, Channel Islands, and the Isle of Man.

FOOD POISONING.

No cases of food poisoning occurred during the year 1923.

DAIRIES, COWSHEDS AND MILKSHOPS.

There is no change in the method of procedure respecting the licensing of cowsheds and the registration of dairies, milkshops and milkstores.

STATISTICS RESPECTING COWSHEDS.

	1923
Number of applications to keep cows on premises not previously licensed	1
,, ,, granted	1
,, ,, for re-issue of licence	3
,, cows applied for	51
,, ,, granted	51
,, applications for transfer to fresh tenants of cow sheds previously licensed	24
,, ,, granted	24
,, ,, for additional stock	—
,, Cowsheds on the register 31st December, 1922	294
,, ,, ,, ,, 1923	293
,, cows licensed to be kept within the city area	4,883

COWSHED INSPECTION.

	1922.	1923.
Number of inspections of Cowsheds	2,137	1,138
,, found incorrect	49	70

Thirteen notices were issued to occupiers directing their attention to minor contraventions of regulations.

The number of cowsheds in the City during the years 1915 to 1923, inclusive, together with the number of cows licensed to be kept, and the number of applications for new cowsheds are shown in the following table:—

Years	Cowsheds	Cows	Applications.
1915 ...	423 ...	6,460 ...	7
1916 ...	383 ...	6,043 ...	8
1917 ...	393 ...	6,516 ...	3
1918 ...	339 ...	5,487 ...	1
1919 ...	323 ...	5,228 ...	2
1920 ...	295 ...	4,942 ...	7
1921 ...	296 ...	4,921 ...	1
1922 ...	294 ...	4,880 ...	3
1923 ...	293 ...	4,883 ...	1

MILKSHOPS.

	1922.	1923.
Number of applications for registration	114	161*
,, ,, granted	110	149
,, ,, withdrawn	—	9
,, ,, in abeyance	4	3
,, ,, refused	—	—
Number of Milkshops on the register at the end of 1919		670
,, ,, ,, ,, 1920		655
,, ,, ,, ,, 1921		688
,, ,, ,, ,, 1922		691
,, ,, ,, ,, 1923		743

DAIRIES AND MILKSHOPS.

	1922.	1923.
Number of Inspections of Dairies and Milkshops ...	5,088	4,180
,, found incorrect	32	126

Fifty-eight caution notices were issued to occupiers of milkshops, and one notice was sent to a farmer for a minor contravention of the Regulations.

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* Ninety-two of these applications were transfers.

ICE CREAM MAKERS AND VENDORS.

The usual inspections have been made of the premises utilised by street traders solely for manufacturing ice-cream.

The dwellings which these street traders occupy have also been kept under observation, and in no instance during the past year has it been found that ice-cream has been made or stored in or about these dwellings.

A systematic inspection has also been made of shopkeepers' premises which are used for the manufacture or sale of ice-cream.

	1922.	1923.
Number of premises under inspection	994 ...	982
,, visits made	2,473 ...	1,028
,, caution notices issued	17 ...	21

PIGGERIES.

In 1923, 17 applications, involving the keeping of 687 pigs, were made; 16 of these applications were granted, and one for the keeping of 500 pigs was refused.

There are now on the register 141 piggeries licensed for the keeping of 2,778 pigs, the average number kept being 1,420; 268 visits of inspection of premises were made during the year.

TUBERCULOSIS AND THE MILK SUPPLY.

LIVERPOOL CORPORATION ACT, 1921.

The examination of cows and cowsheds within the City has been duly carried on throughout the year, and all cases of sickness found by the Inspectors reported to the Veterinary Department. In cases where the cows are reported to be suffering from any disease of the udder, the Medical Officer of Health directs that the animal be submitted to veterinary examination, and if it is found to be affected with disease likely to be inimical to the public health, the milk supply from the affected cow is stopped.

Apart from notifications, the Veterinary Department have submitted a great number of cows in the town to inspection.

The following is a table showing the number of visits made by the Veterinary Inspectors to cowsheds within the City Boundary:—

Year.	No. of Visits to Town Cowsheds.	No. of Cases notified by Owners.	Other Visits.	No. of Cows examined.	No. of Cows with Tuberculosis of the Udder.	No. of Convictions for Offences under the Act.
1919	72	14	58	867	2	—
1920	67	11	56	934	6	—
1921	91	7	84	1400	21	—
1922	100	8	92	1535	6	—
1923	130	6	124	1849	15	—
Totals...	460	46	414	6585	50	—

It has been necessary during the routine examination for the Veterinary Inspectors to take 54 samples of milk for bacteriological examination. 27 of these were control samples and 27 direct. Of the control samples 2 were proved tuberculous and 25 non-tuberculous. Of the direct samples 11 were proved tuberculous and 16 non-tuberculous.

Four cases with tuberculous udders were slaughtered without samples of their milk being submitted to bacteriological examination.

In addition to the 1,849 cows examined during 1923, the udders of 5,163 animals were examined by an Inspector of the department.

All the above figures relating to milk samples are included in the table of samples submitted for bacteriological examination within the City.

MILK SUPPLIED FROM OUTSIDE THE CITY BOUNDARIES.

Under the Liverpool Corporation Act, 1921, Inspectors systematically visit various places supplied with milk from the country, including the railway stations and hospitals, and there take samples. These samples are then submitted to bacteriological examination. Should they be found to contain tubercle bacilli the Veterinary Superintendent or his assistant, accompanied by the Medical Officer of Health or his representative, and furnished with an order signed by a magistrate resident within the county from which the milk is consigned (as prescribed by the Act), visit the farm or dairy and examine the stock therein.

The following table shows the number of visits to farms outside the City boundary during the past five years:—

Year.	No. of Farms Visited.	No. of Re-Visits to Farms	Total No. of Visits to Farms.	No. of Cowsheds Examined.	No. of Cows Examined.	No. of Cows with Tuberculosis of Udder.	No. of Convictions for Offences under the Act.	No. of Ord Prohibiting Sale of Contamina Milk with the City.
1919	6	—	6	14	312	1	—	—
1920	23	4	27	48	1225	4	—	—
1921	40	18	58	113	2225	10	—	—
1922	49	21	70	114	2324	16	—	—
1923	36	19	55	104	1754	17*	—	—
Totals...	154	62	216	393	7840	48	—	—

* Of the tuberculous samples, one was taken in 1923, but referred to a farm the investigation which was commenced in 1922. The tuberculous udder being included in the figures for th year.

During the examination of cattle outside the City, it has been necessary for the Veterinary Department to take 136 samples of milk for bacteriological examination. Of these, 97 were control samples and

39 were direct samples. Of the control samples, 11 were proved tuberculous and the remainder non-tuberculous. Of the direct samples 18 proved tuberculous and the remainder non-tuberculous.

BACTERIOLOGICAL EXAMINATION OF MILK.

From January, 1901, to December, 1923, 9,272 samples of milk from sources outside the City were submitted for bacteriological examination, and 611 of the samples were found to be contaminated by tubercle bacilli, this being equal to 6·5 per cent.

All the farms from which the contaminated milk was supplied (402 in number) were visited and the herds examined, the total number of cows being 22,209; 202 cows were regarded as "suspicious," and the farmers were requested to isolate these animals pending a report of the City Bacteriologist on samples of milk taken direct; 412 samples were taken in this way, and 98 were reported by the City Bacteriologist to contain tubercle bacilli. In several instances the emaciated condition of the animal was such as to justify immediate slaughter. "Control" samples were also taken, and the examination of these samples generally showed that the remainder of the herds were not giving tuberculous milk.

In the earlier years of the operation of the Liverpool Corporation Act, 1900, now included in the Liverpool Corporation Act, 1921, the action of the Health Committee in regard to the examination of cattle and farms outside the City area was in many cases resented by the farmers concerned, and it became necessary for the Committee to make Orders prohibiting the sending of milk from certain farms into Liverpool. Twenty-three such Orders were made. Twenty-seven convictions were also obtained against farmers, whose premises were outside the City, for failing to notify the Medical Officer of Health of the existence of "suspicious" animals amongst the herds.

As a general rule, when first visiting these country cowsheds, it was found that very little inspection was done by the Rural Authorities, and the cowsheds were devoid of light, ventilation and drainage, the floors were badly paved and covered with filth, the walls and ceilings were extremely dirty and rarely, if ever, limewashed. In some instances the cubic capacity per cow was as low as 200 feet.

During latter years a much better condition has been found, and it is evident that the Rural Authorities are becoming more alive to the necessity for close attention to the sanitation of cowsheds. There can be little doubt that the action of such large milk-consuming centres as Manchester, Sheffield, Liverpool, etc., has been instrumental in bringing about more activity in regard to these matters in country districts.

During the same period 5,144 samples of milk from town cowkeepers were submitted for bacteriological examination, and 203 of the samples were found to be contaminated by tubercle bacilli, this being equal to 3·9 per cent.

Owing to the neglect to notify the Medical Officer of Health that they had in their dairy a cow "suspicious" of tuberculosis of the udder, it was found necessary up to the year 1905 to prosecute 21 cowkeepers. Since that time the requirements of the Act have been more closely observed.

The accompanying tables give detailed particulars relating to the samples taken and result of examination, together with the number of cows examined:—

TABLE RELATING TO COUNTRY SAMPLES.

Year.	Samples from Bulk.			Farms.			Samples direct from individual cows at farm		
	No. taken.	Tubercular.	Percentage Tubercular.	Farms affected.	Cows examined.	Cows suspected.	No. taken.	Tubercular.	Percentage Tubercular.
1913	412	28	6·80	13	784	4	14	2	14·29
1914	452	42	9·30	17	1,302	6	47	6	12·77
1915	419	30	7·16	4	1,265	3	16	3	18·75
1916	439	22	5·0	10	1,395	5	30	1	3·33
1917	387	20	5·17	11	898	10	18	3	16·70
1918	387	14	3·62	6	449	9	10	2	20·00
1919	346	26	7·51	6	312	1	3	1	53·33
1920	800	56	7·0	18	1,225	8	14	4	28·57
1921	507	54	10·65	23	2,225	10	37	10	27·02
1922	590	53	8·98	34	2,324	16	45	15	33·33
1923	593	62	10·45	36	1,754	17	39	18	46·15
TOTAL ...	5,332	407	7·63	178	13,933	89	273	65	23·63

TABLE RELATING TO TOWN SAMPLES.

Year.	Samples from Bulk.			Cowsheds	
	Number taken.	Tubercular.	Percentage Tubercular.	Cows examined.	Cows suspected.
1913	238	18	7·57	4,732	18
1914	206	11	5·34	4,043	21
1915	261	14	5·36	1.781	15
1916	147	5	3·40	3,232	11
1917	128	9	7·03	896	2
1918	113	12	10·62	1,570	2
1919	163	4	2·45	867	2
1920	222	17	7·66	934	6
1921	302	46	15·23	1,400	21
1922	244	11	4·50	1,535	6
1923	309	19	6·14	7,012	15
TOTAL ...	2,333	166	7·15	28,002	119

SALE OF FOOD AND DRUGS ACT.

The Sale of Food and Drugs Act, and its various amendments, are designed to safeguard the public from purchasing articles injurious to health or not of the nature, substance and quality demanded.

Great care is necessary in procuring samples, and in submitting them for analysis, or very misleading results will ensue. All samples of food or drugs are taken either by or under the superintendence of trained and qualified Inspectors of the Health Department. It is of the greatest consequence that trained and practised persons should be employed for this purpose, and it is necessary from time to time to employ women or young people as agents, to go into the shop to ask for the articles, and as soon as the agent receives them, the Inspector enters the shop and completes the formalities which the Act requires.

Only a few purchases are made of those articles which, experience shows, are not likely to be adulterated. On the other hand, when enterprising firms, seeking new fields for adulteration and profit, place suspicious articles on the market, it becomes necessary, sometimes, to take a considerable number of the articles before the fraud can be detected and checked.

The practice of taking samples "informally" (*i.e.*, without any intimation to the vendor that samples are to be analysed) has been continued throughout the year. This practice is very valuable, as it saves time and trouble whilst causing no annoyance to honest shopkeepers, whose objections to the taking of samples, with all the formalities required by the Act, are that the counter space is occupied for the division of the samples into three parts, and, in addition, the action excites curiosity and possibly suspicion on the part of regular customers.

The tables on the following pages give a summary of the samples analysed during the year.

Summary of Samples submitted for Analysis from January 1st to December 31st, 1923. and other Statistical details.

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Infor-mations.
		Sch'dule A.	Sch'dule B.				Sch'dule A.	Sch'dule B.		
—	—	—	—	Arrowroot	28	28	—	—	—	—
—	—	—	—	Barley	104	90	12	2	11	1
30	30	—	—	Beer	—	—	—	—	—	—
2	2	—	—	Bread	37	37	—	—	—	—
79	77	2	—	Butter	350	349	1	—	1	—
—	—	—	—	Butter Milk	3	1	2	—	2	—
1	1	—	—	Cake Flour and Mixtures	17	17	—	—	—	—
23	23	—	—	Condensed Milk	—	—	—	—	—	—
116	113	1	2	Confectionery	110	108	—	2	—	—
21	19	2	—	Condiments and Spices	218	194	8	16	8	—
4	4	—	—	Coffee and Mixtures	119	119	—	—	—	—
—	—	—	—	Corn Flour	35	35	—	—	—	—

SUMMARY OF SAMPLES, &c.—*Continued.*

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Infor-mations.
		Sch'dule A.	Sch'dule B.				Sch'dule A.	Sch'dule B.		
1	1	—	—	Cream of Tartar	65	61	3	1	3	—
—	—	—	—	Custard Powder	34	34	—	—	—	—
1	1	—	—	Dripping	10	10	—	—	—	—
1	1	—	—	Egg Powders and Substitutes	8	8	—	—	—	—
—	—	—	—	Flour.....	69	67	—	2	—	—
1	1	—	—	Do. Self-Raising	91	90	—	1	—	—
1	1	—	—	Fruit Cordials	46	32	9	5	—	—
8	8	—	—	Honey	1	1	—	—	—	—
6	6	—	—	Jam, Jellies and Marmalade.....	41	38	1	2	1	—
6	6	—	—	Lard	94	94	—	—	—	—
121	121	—	—	Margarine.....	29	29	—	—	—	—
60	25	16	19	Milk.....	3724	3412	195	117	139	56
—	—	—	—	Do. Separated	47	44	3	—	2	1

Informal Samples.				Nature of Sample.	Formal Samples.					
Number taken.	Number genuine.	Adulterated.			Number taken.	Number genuine.	Adulterated.		Number caut'nd.	Infor-mations.
		Sch'dule A.	Sch'dule B.				Sch'dule A.	Sch'dule B.		
—	—	—	—	Rice	173	145	2	26	2	—
19	19	—	—	Syrup and Treacle	5	5	—	—	—	—
41	39	4	—	Wines and Spirits	14	13	1	—	—	1
13	12	1	—	Drugs	84	80	3	1	—	1
213	201	10	2	Miscellaneous	704	681	16	7	16	—
768	709	36	23		6260	5822	256	182	185	60

SUMMARY OF SAMPLES IN WHICH LEGAL PROCEEDINGS WERE INSTITUTED DURING THE YEAR ENDING DECEMBER 31ST, 1923, TOGETHER WITH RESULT.

No. of Informations.	Nature of Sample.	Nature of Offence.	Result of Legal Proceedings.				
			No. of convictions.	No. withdrawn on payment of costs.	No. withdrawn and dismissed without costs.	Fines	Costs.
						£ s. d.	£ s. d.
25	Milk	Adulterated with water	13	7	5	70 2 0	32 17 6
28	,, ...	Deficient in cream	14	11	3	46 0 0	30 2 0
2	,, ...	Deficient in milk fat, and adulterated with water.....	2	—	—	17 0 0	2 12 6
1	,, ...	Adulterated with water, deficient in cream, and coloured with Annatto.....	1	—	—	4 0 0	2 2 0
2	,, ...	Coloured with Annatto	2	—	—	1 10 0	—
1	Buttermilk	Not Buttermilk but milk to which 10% of water had been added	1	—	—	5 0 0	1 1 0
1	,, ...	Obstructing Inspector in course of his duty...	1	—	—	5 0 0	—
1	Brandy	45 % of Spirit other than Brandy	—	—	1	—	—
1	Barley	Infected with Acari	1	—	—	1 0 0	1 1 0
1	Calcined Magnesia	Contained 90 % Magnesium Carbonate. 20 parts of Arsenic per million parts of sample	1	—	—	1 0 0	1 1 0
63			36	18	9	£150 12 0	£70 17 0

DETAILS OF SAMPLES OF MILK OBTAINED FOR CHEMICAL ANALYSIS.

	1922.	1923.
Number of samples purchased on week-days in town	1,256	1,291
,, informations	21	27
,, samples taken at railway stations on week-days	1,330	1,334
,, informations	16	20
,, samples purchased on Sundays in town...	114	120
,, informations	4	4
,, samples taken at railway stations on Sundays	133	108
,, informations	2	—
,, samples taken at City Hospitals... ...	428	239
,, informations	—	—
,, samples taken at Corporation Infant Welfare Centres and Day Nurseries..	239	250
,, informations	—	—
,, samples taken at other Institutions ...	174	442
,, informations	—	8

MARGARINE ACT.

	1922.	1923.
Number of visits to wholesale dealers in margarine...	1,000	196
,, visits to shops	4,033	3,651
,, visits to other places	1,914	2,636

SPECIAL EXAMINATIONS.

The total number of samples submitted during 1922 and 1923 for special examination was 70 and 103, respectively.

POISONS AND PHARMACY ACT, 1908.

The Poisons and Pharmacy Act, 1908, came into operation on the 1st April, 1909.

The object of the Act is to regulate the sale of certain poisonous substances, and to amend the Pharmacy Acts. It is fully referred to in the Annual Report for 1909.

The number of licences issued under this Act during the year 1923 was 21.

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912 and 1917.

Report for the year ending 31st December, 1923.

1. Milk and Cream not sold as Preserved Cream.

Number of samples examined for the presence of a preservative:

Milk, 3,784; Cream, 21.

Number in which a preservative was reported to be present:

(*a*) Milk	1
(*b*) Cream	0

Nature of preservative—Formaldehyde, 1 sample.
(One part per million of the sample.)

Action Taken.

(*a*) Information was laid under the Sale of Food and Drugs Act, 1899 (Section 16), for obstructing the Inspector in the course of his duty. The defendant was fined £5.

2. Cream sold as Preserved Cream.

(*a*) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct:

Number of samples taken	14
Correct statements made...	11

(*b*) Determinations made of milk fat in cream sold as Preserved Cream:

Above 35 per cent.	14

(*c*) Instances where (apart from analysis) the requirements as to labelling or declaration of Preserved Cream in Article V (1), and the proviso in Article V (2) of the Regulations were not observed:

1 and 2—The requirements of the Regulations were observed at the places visited.

3. Thickening Solutions.

None found.

FERTILISERS AND FEEDING STUFFS ACT, 1906.

On 1st January, 1907, a Fertilisers and Feeding Stuffs Act, which replaced the old Act of 1893, came into operation.

Under it the City Analyst was appointed official agricultural analyst, and the three inspectors under the Sale of Food and Drugs Act were appointed official samplers.

A certain remuneration was agreed to in respect of the work done under the Act.

Total number of samples submitted during the following years:—

1920	...	...	...	...	...	...	18
1921	...	...	...	...	...	...	25
1922	...	...	...	...	...	...	18
1923	...	...	...	...	...	...	13

REPORT OF THE CITY BACTERIOLOGIST, 1923.

During the year 1923, 27,421 specimens were examined for the Public Health, Port Sanitary, Water, and Baths-and-Wash-houses Departments. These specimens may be grouped as follows :—

1. Milk and other Food-stuffs.
2. Water.
3. Rats, etc., for possible infection with the bacillus of Plague.
4. Material from Infectious Diseases in Man (Diphtheria, Typhoid Fever, Tuberculosis, etc.).
5. Venereal Diseases.
6. Material from Animals suspicious of infection.
7. Other specimens.

MILKS AND OTHER FOOD-STUFFS.

The following samples have been examined :—

(*a*) *Public Health Department*—

(i) Fresh Milks—		
City Hospitals	140	
Infant Welfare Centres	93	
Milk Shops, Railway Stations, etc.	927	
		1,160
(ii) Tinned Milks		21
(iii) Other Foodstuffs—canned and potted meats, etc. ...		51
		1,232

(i) *Fresh Milks*—

City Hospitals.—Of the 140 samples examined 74 contained B. coli in one-hundredth of a c.c., in 3 samples B. coli was absent in 1 c.c., 6 contained B. enteritidis sporogenes in 10 c.c., 10 contained streptococci, and B. tuberculosis was found in 9 samples.

Infant Welfare Centres.—Of the 93 samples examined 44 contained B. coli in one-hundredth of a c.c., in 11 samples B. coli was absent in 1 c.c., 5 contained B. enteritidis sporogenes in 10 c.c., 5 contained streptococci, and B. tuberculosis was found in 10 samples.

Milk Shops, Railway Stations, etc.—Of the 927 samples examined 327 contained B. coli in one-hundredth of a c.c., in 175 B. coli was absent in 1 c.c., 48 contained B. enteritidis sporogenes in 10 c.c., 27 contained streptococci, and B. tuberculosis was found in 108 samples.

Thus, in 1,160 samples of milk 127 were found to be infected with tubercle. This, at first sight, seems a large proportion, but many of the samples were in duplicate or triplicate, and it is impossible to draw any conclusion from these figures as to the percentage of tuberculosis in the milk supply of the City.

(ii) *Tinned Milks*—

Of the 21 samples examined 11 were sterile, 3 contained putrefactive organisms, 6 staphylococci, and 2 tins of dried milk contained organisms of the mesenteric group.

(iii) *Other Food-stuffs*—

Of the 51 samples examined 6 were sterile, 18 shewed putrefactive organisms, 4 contained B. coli, 3 contained B. enteritidis sporogenes, and 9 staphylococci. The shell-fish were all free from B. typhosus, and their bacterial content (i.e., of other bacteria), was not excessive

Water—

There were 397 samples of water examined, viz. :—

For the Water Engineer—		
Daily Samples	311	
Monthly Samples—		
Prescot—Vyrnwy	13	
,, Rivington	13	
George Holt Well	5	
Dudlow Lane Well	13	
Other special samples from Rivington, Vyrnwy, Prescot, City Reservoirs, etc.	38	
	——	393
For the Medical Officer of Health		4
		397

The water throughout the year, whether from the wells or from Prescot, was, from a bacterial standpoint, satisfactory.

Rats, etc.—

The total number examined is as follows :—

Port	7,093
City	2,725
Total	9,818

No evidence of the bacillus of plague was found in any of them.

Material from Infectious Diseases in Man—

(*a*) Swabs from suspected cases of Diphtheria :—

	Positive.	Negative.	Total.
City Hospitals	385	7,054	7,439
Infant Welfare Centres ...	1	14	15
Port Sanitary Authority ...	37	108	145
Private Practitioners	76	432	508
Totals	499	7,608	8,107

(*b*) Blood from suspected cases of Typhoid :—

	Positive.	Negative.	Indefinite.	Total.
City Hospitals	1	31	16	48
Infant Welfare Centres	—	1	—	1
Port Sanitary Authority ...	1	21	—	22
Private Practitioners	1	25	2	28
	3	78	18	99

(*c*) Urine and Fæces from suspected cases of Typhoid Fever, etc. :—

	Positive.	Negative.	Indefinite.	Total.
City Hospitals	4	133	7	144
Private Practitioners	4	9	—	13
	8	142	7	157

(*d*) Specimens from suspected cases of Tuberculosis :—

	Positive	Negative.	Total.
City Hospitals	32	343	375
Private Practitioners	232	922	1,154
	264	1,265	1,529

(*e*) Anthrax Infection.—14 specimens of tissues, swabs, etc., were examined—9 were from City Hospitals and 5 from Private Practitioners —and all were negative.

(*f*) Vaccines.—6 vaccines were prepared from specimens sent from the City Hospitals.

(*g*) Miscellaneous.—158 specimens of tissues, secretions, fluids, etc., were examined, chiefly for the City Hospitals.

Venereal Diseases—

The following specimens have been examined from persons known, or suspected, to be suffering from Venereal Disease :—

	Positive.	Slightly Positive.	Indefinite.	Negative.	Total.
Clinics –					
Wassermann Reactions ...	423	185	1	1,257	1,866
For Gonococci	19	—	3	387	409
For Spirochaetes	2	—	—	8	10
	444	185	4	1,652	2,285
Private Practitioners—					
Wassermann Reactions ...	527	205	8	1,494	2,234
For Gonococci	31	—	2	186	219
For Spirochaetes	—	—	1	6	7
Still-born Infants	33	—	11	364	408
For Ophthalmia Neonatorum	16	—	1	48	65
	607	205	23	2,098	2,933
Grand Totals ...	**1,051**	**390**	**27**	**3,750**	**5,218**

As the majority of these specimens are sent from patients suspected to be suffering from Syphilis, or undergoing treatment, several specimens of blood may be sent from one case at different times, and, therefore, no percentages as to positive and negative results can be estimated from these figures.

Of the 408 Still-born Infants examined 33 gave positive evidence of the presence of Syphilis (i.e., over 8 per cent.), and 11 were suspicious. In 5 of these suspicious cases the mothers' blood was examined, and 3 proved to be positive.

Of the 65 cases of Ophthalmia Neonatorum, 16 shewed the presence of Gonococcus, i.e., about 25 per cent.

Material from Animals Suspicious of Infection—

Anthrax Infection.—All the shaving brushes (22 in number) and the animal foods, etc. (6 in number) examined shewed no evidence of B. Anthracis; 16 specimens of tissues, etc., were examined—8 were negative and 8 shewed positive evidence of B. Anthracis.

Other Specimens—

The following specimens were examined for the Baths and Wash-houses Department :—

29 waters from Public Swimming Baths.
3 Disinfectants.

There were no organisms present in any of the waters which were likely to cause disease, and the general bacterial content of the waters was, from a health point of view, quite satisfactory. It is interesting to note that the best results were obtained in those samples of bath-water which contained the greater proportion of salt-water.

The object of examining the disinfectants was to test the efficiency of them, and to compare one with the other in order that the best for the purpose of disinfection might be employed, and also for the purpose of seeing that the guaranteed standard was maintained.

SUMMARY OF EXAMINATIONS DURING THE YEAR 1923.

Description of Specimens.	Numbers.
Milks and Other Food-stuffs	1,232
Waters	397
Rats, Mice, etc.	9,818
Material from Infectious Diseases in Man :—	
Swabs for Diphtheria	8,107
Blood for Typhoid Fever	99
Urine and Faeces for Typhoid Fever	157
Sputa for Tuberculosis	1,529
Anthrax Infection	14
Vaccines	6
Miscellaneous	158
Venereal Diseases	5,218
Material from Diseases in Animals	644
Other Specimens	32
TOTALS	27,421

DISEASES OF ANIMALS.

THE GLANDERS AND FARCY ORDER OF 1907.

During the year 1923 the City was again entirely free from the disease.

Immediate notification of suspected glanders is received either from the owner, police, or the veterinary surgeon who may be called in to the case. As a further safeguard, the Veterinary Department examine the lungs of all equines sent to the horse slaughterer's yard (there is only one in the city for this purpose), and it is by these inspections that unreported cases can be discovered.

This precaution is also taken to ensure owners being notified of the existence of the disease which may be in a latent state, and to detect unscrupulous persons who may not conform to the requirements of the Order.

The following table gives the number examined during the past three years:—

Year	Lungs Examined.	Affected.	Not Affected.
1921	1,139	—	1,139
1922	996	—	996
1923	915	—	915

INSPECTION OF HORSE AUCTIONS.

The sale yards in the City have been regularly visited and the animals exposed for sale therein examined for the presence of any contagious disease, under the Glanders Order of 1907, Parasitic Mange Orders of 1911 and 1918, and the Epizootic Lymphangitis Order, 1905; also as to their fitness to travel in accordance with the Horses (Importation and Transit) Order of 1913, and the Protection of Animals Act of 1911.

There were 3,567 animals examined, all of which were found to be free from contagious disease.

MARKET INSPECTION.

The following number of animals were examined at the Liverpool Cattle Market during the year 1923. The figures for 1922 are also given for comparison:—

	1922.	1923.
Cattle	1,965	7,476
Sheep	41,622	68,976
Pigs	—	5
Other Animals	—	—
Total	43,587	76,457

THE PARASITIC MANGE ORDER OF 1911 AND AMENDMENT ORDER OF 1918.

Under this Order, immediate notification of actual or suspected cases of mange in horses is received from the owner, police, horse slaughterers, or veterinary surgeons, who may be called in to the case. The suspected animals are then examined by the Veterinary Department, and also the entire stud when at rest. Affected animals are immediately isolated and kept under observation until the disease has disappeared. Thorough disinfection of the premises, harness, utensils, feeding troughs, etc., is carried out under the supervision of the veterinary inspectors.

It was not deemed necessary to institute any prosecutions under the Order during the year.

The total number of outbreaks on premises where the disease was found to exist was 12, and the number of visits paid to these premises was 180.

The following table shows the figures for 1923, with the previous four years for comparison, from which it will be seen that the disease appears to be well under control.

Year.	Number of Outbreaks.	Number of Animals and Carcases Examined.	Number affected or suspected.	Recovered.	Died or Slaughtered.
1919	268	3,213	493	358	135
1920	221	1,921	263	189	74
1921	58	847	73	55	18
1922	36	362	44	33	11
1923	12	55	17	13	4

THE ANTHRAX ORDER OF 1910.

A number of suspected cases of Anthrax were investigated by the Health Department under this Order. Of these, 22 were referred to the Veterinary Department and, on microscopical examination, Anthrax was suspected to exist in 5 cases. These were reported to the Ministry of Agriculture and Fisheries in accordance with the Order and all were confirmed.

In connection with the spread of Anthrax to farm animals owing to the contamination of cattle food products with the spores of the bacillus during shipment in foreign parts and during the voyage, the staff of the City and Port have kept this matter constantly before them, and systematic enquiries have been made as to the possibility of the contamination of cattle food products. In addition, the Ministry of Agriculture and Fisheries have issued a notice to shipowners and others concerned pointing out that special precautions should be adopted when cargo containing animal products likely to be infected (such as hides, hair, wool, etc.) is carried in the holds and other parts of vessels before such places are used for carrying any cargo to be utilised as cattle food.

THE RABIES ORDER OF 1897.

Twelve dogs which had either bitten some person or were showing obscure symptoms were examined, and in each case no suspicion of rabies was detected.

FOOT-AND-MOUTH DISEASE ORDER OF 1895.

Foot-and-Mouth Disease, which had been causing considerable anxiety in other parts of the country, was confirmed at Wigan on the 19th October, 1923. This outbreak necessitated the putting into force of numerous restrictions within the City.

On November 21st, 1923, an outbreak occurred at Speke, as a result of which a standstill order was made, involving an extensive area in the vicinity, and Liverpool was included.

On November 23rd, the first outbreak occurred within the City, and from that date until the end of the year eight outbreaks had occurred.

During this period a considerable amount of time was devoted to assisting the officials of the Ministry of Agriculture and Fisheries located on the spot.

All movements of animals into and within the City for any purpose were controlled by the issuing of licences, and a large amount of time of the officials of the Veterinary Department has been devoted to this purpose.

Four of the outbreaks were upon cowkeepers' premises, and this involved the destruction of 102 cows. Three were on premises not supplying milk, and these involved the destruction of 33 cattle, 169 pigs and 18 goats. The remaining outbreak was at the Liverpool Abattoir, where 1 bovine and 35 pigs were affected.

There were thus destroyed a total of 136 cattle, 204 pigs, and 18 goats.

A number of the not-affected but in-contact animals were salvaged.

The outbreak so far as the City was concerned was further continued into 1924.

A complete report of the outbreak can only be furnished when the disease has been eradicated.

DEPARTMENTAL INQUIRY INTO FOOT-AND-MOUTH DISEASE.

The following is a summary of evidence on Foot-and-Mouth Disease given by the Medical Officer of Health on behalf of the Health Committee, at an inquiry by the Departmental Committee on Foot-and-Mouth Disease :—

In view of the terrible loss of live stock and the deprivation of the community of milk, the Health Committee feels grave concern that the facilities which exist for the purpose of investigation are not fully utilised. They had in Liverpool an admirably equipped bacteriological department established at great cost and manned by recognised experts, who had applied in vain to the Ministry of Agriculture for permission to investigate the disease. Research by experts, such as Professor Beattie, was hampered and restricted by the limitations imposed by the Ministry.

The witness expressed the view that the only prospect of a solution was to be found in investigation. He quoted the analogy of human disease, and explained how laboratory investigations had been productive of a vast amount of good to mankind in connection with communicable diseases such as Cholera, Plague, Diphtheria, &c. The circumstances that Foot-and-Mouth Disease is so highly infectious is an additional reason for obtaining the assistance of the expert investigator. The mere destruction of £3,000,000 worth of cattle has brought us no more knowledge of the nature of the disease, nor of the means of its reduction or prevention.

The refusal of the Ministry to allow investigations to be carried out by men of high standing, and of established reputation, in laboratories so perfectly equipped as were those at their disposal, could only be regarded as deplorable.

Witness would not suggest that an unlimited number of people should inoculate beasts with Foot-and-Mouth Disease for the purpose of experiments; but urged that investigators should be carefully selected, licensed, and that the Ministry should be satisfied as to the excellence of the laboratories, and with these conditions he thought the number of people permitted to experiment so far from being unlimited would probably be limited to half a dozen.

In answer to further enquiries witness said, such workers should be held responsible, as is the case, for example, in experiments on living animals.

Witness doubted whether it was possible to investigate the disease without inoculating animals.

What he aimed at was that the material should be supplied to the approved experts to carry on investigations subsidised by the Ministry and carried on under their supervision and control. He thought the experts would be prepared to set aside portions of their premises, which would be limited to the exclusive use of the persons authorised to conduct the experiments.

The existing Veterinary and Trained Staff of the Ministry should be quadrupled in order to enable its members to become thoroughly conversant with local conditions, but it was said that this might prove wasteful and costly in the matter of salaries.

As against the argument that in times when Foot-and-Mouth Disease did not exist, the employment of a large staff was extravagant, witness suggested that the Inspectors could always be profitably employed in the examination of herds for tuberculosis. At present, in the large municipalities, samples of milk were constantly revealing the presence of tuberculous cows in the herds from which the milk supplied were drawn. This necessitated the visit of veterinary surgeons to the districts, often at some distance, and the witness thought that the employment of an augmented staff for this purpose in the absence of other duties would be both beneficial and economical.

Witness raised the desirability of the local staff of the City being engaged on behalf of the Ministry, explaining that ultimately they were all practically enlisted, though in his opinion too late. He saw no reason why local staffs should not be empowered to deal with initial outbreaks, the present system in his view tending to delay action, to extend the disease, and increase the cost.

The suggestion would not obviate necessity for a "stand-still Order" being imposed.

The journeying of butchers from farm to farm in search of fat stock was in his opinion conducive to greater risk than the holding of fat stock sales under properly regulated conditions.

There was a difficulty at one time by the shortage of butchers, but witness could not say whether the difficulty was accentuated by the policy of salvage. He could not conceive of the question of salvage not arising.

Isolation could only be carried out under strict supervision, in which case a skilled staff from the Ministry would be preferable to the employment of police.

In his opinion isolation should be at some central premises, on the principle of an infectious hospital, to which animals could be taken. Where, however, premises were absolutely isolated, the outbreak could be dealt with on the premises. Furthermore, exceptional circumstances would arise which would render slaughter necessary in outlying parts of the country, but this is a very different proposition to the policy of mere slaughter, make-shift administrative arrangements, and the exclusion of scientific investigators.

THE IMPORTATION OF CANINE ANIMALS ORDER OF 1909.

This Order was issued by the Ministry of Agriculture in 1909 to control the importation of animals such as wolves and jackals, and so prevent the introduction of rabies by animals other than dogs whose importation was already controlled by the Importation of Dogs Order of 1901.

No examinations were made under this Order during the year.

THE PROTECTION OF ANIMALS ACTS, 1911.

Under this Act the Police have power to call in a veterinary surgeon in cases of cruelty and act upon his advice. The Veterinary Department is consulted under the Act.

There were two shops in the City licensed under the Horse Flesh Act of 1889 for the sale of horse beef for human food at the end of the year.

EXAMINATION OF HORSES FOR HUMAN FOOD.

Premises have been set apart at three slaughter-houses, viz., Carruthers Street, Foley Street, and Cherry Lane, for the slaughter of the horses and dressing of the carcases.

The animals deemed suitable for human consumption are first submitted whilst alive to veterinary examination, and after slaughter the carcases are examined by the Inspectors of the Medical Officer of Health, and also in many cases by the Veterinary Inspector.

There were 2,070 animals examined by the Veterinary Inspector, 32 of which were condemned alive as being unfit for slaughter for human consumption. Of the remaining 2,038 animals, 1,960 of these were passed for human consumption by the Inspectors of the Medical Officer of Health and 78 were condemned.

IMPORTATION OF ANIMALS ACT, 1922.

The main purpose of the above Act, which came into force during 1923, was to allow the landing alive in this country of Canadian Store Cattle, but certain provisions were made in it with regard to Ireland.

The two following important Orders were made by the Ministry of Agriculture and Fisheries under the above Act :—

THE IMPORTATION OF CANADIAN CATTLE ORDER OF 1923.

This Order came into force on the 1st April, and it allows certain classes of store cattle to be imported from Canada.

After passing through an approved landing place, such animals are licensed by the Ministry of Agriculture and Fisheries either to premises or to markets specially authorised.

In the former case they are detained and inspected from time to time by the Veterinary Department.

In the latter case, Stanley Cattle Market was authorised for the reception, but no animals passed through it.

ANIMALS (LANDING FROM IRELAND, CHANNEL ISLANDS AND ISLE OF MAN) ORDER OF 1923.

This Order came into force on the 1st April, 1923, and under it animals from the countries specified are regarded as imported.

In addition, however, to store cattle, all classes of cattle, together with sheep, swine and goats, are landed under this Order.

When licensed to premises, they are detained and inspected.

When passing through a market, they are re-licensed, and a large number were dealt with at Stanley Cattle Market.

The Corporation of Liverpool makes a yearly donation to the Funds of the Royal Society for the Prevention of Cruelty to Animals (Liverpool Branch), and the Liverpool Dogs' Home, on account of the work done for the Health and Watch Committees, and the following reports from their various Liverpool Centres may be of interest :—

Liverpool Cats' Shelters.

41, Russell Street; 90, Smith Street; 171, Mill Street.

The year 1923 again shows a great increase in the total number of animals dealt with by these Institutions, which reached the unprecedented figure of 23,973. It should be understood that practically every one of these animals is either brought to the Shelters or is collected by the Society's motor van, at the owner's express request, from the house of the owner. As usual, an enormous proportion were in a state of injury or disease. (A post-card directed to the Caretaker, 41, Russell Street, Liverpool, desiring the van to call will receive prompt attention.)

Liverpool Horses' Rest, Broadgreen.

A total of 77 animals enjoyed pasturage here for varying periods during 1923. Most of these were the property of the humbler class of horse owner, and a very high percentage of complete recoveries was recorded. In some cases the owner was loaned a useful animal so as to enable him to carry on while his own was out under the care of the Society.

Liverpool Animals' Hospital, Larch Lea.

The figures for the year 1923 constitute a record showing 3,068 attendances on 1,674 different animals. The veterinary work is carried on honorarily by certain local practitioners. No animals are treated, except in emergency, unless they belong to owners who cannot afford to pay. No fees are received.

These three Institutions are all conducted by the Liverpool Branch of the R.S.P.C.A.

Liverpool Dogs' Home, Edge Lane.

During 1923 the total animals sold, claimed, lethalised and boarded reached the record figure of 9,616, and the accommodation of the Home was strained to the utmost. Considerable improvements in the arrangements have been made, chiefly by the installation of a hot water system for the large stray kennels, and the kennel accommodation has been greatly extended. (A post-card addressed to the Keeper, Dogs' Home, Edge Lane, requesting the Home's van to call to remove an unwanted dog at a nominal fee will receive prompt attention.)

CLEANSING AND SCAVENGING.

The City Engineer has kindly supplied the following information, which indicates the operations carried out by the cleansing staff under his control:—

The work of the Department consists of cleansing and watering the 576 miles of streets within the City, together with their back passages, the periodical emptying of ash-bins, street gullies, street and court-bins and ashpits, and the disposal of the refuse collected therefrom, etc. During 1923 the quantity of refuse collected and disposed of amounted to approximately 331,000 tons, with also 57,000 tons of clinker residue and flue dust, the quantity removed per working day averaging 1,261 tons.

The whole of the 576 miles of streets with their passages are swept weekly, the principal streets, and streets in congested areas, receiving constant daily attention. In addition, certain streets and passages are washed by hose pipe at night time. During 1923 street washing was carried out as follows:—

45 streets washed once a week;
53 streets washed twice a week;
1 street washed daily; and
207 streets washed as occasion required;

and all passages and tunnel entrances to courts were also regularly washed.

Three motor sweeping machines are employed regularly, and sweep approximately 30 miles of roadway nightly.

On Sunday mornings a number of the principal streets are cleansed, and all street and court bins emptied.

During 1923, approximately 52,500 tons of street sweepings were collected and disposed of as manure.

In connection with street watering upwards of 15 million gallons of water were distributed during the season, in addition to the large quantity used for street washing.

300,000 square yards of carriageway were treated with dust-laying compositions, of which 87,156 square yards were in Sefton, Newsham and Princes Parks.

The frequent flushing of trough water closets is a sanitary measure, this type of closet being provided principally in the more densely populated areas of the City. The number of trough water closets in existence on 31st December, 1923, was 683.

There are 35 underground urinals with 328 stalls and 154 overground urinals with 571 stalls in Liverpool, which are cleansed and disinfected at least once daily. During the summer season a large number of urinals and trough water closets are cleansed and disinfected twice daily All private, domestic and office drains are flushed twice a year by the City Engineer's staff.

An improved type of fixture ash-bin was first supplied to Liverpool premises in 1898, and at the end of 1923 the number of bins in use of this type was 86,300, and the number of ashpits had been reduced from 65,000 to approximately 6,600. In addition, more than 56,000 loose bins had been supplied. In the year 1900 an improved sanitary ashbin was introduced for the use of courts, some of which have been removed owing to property being demolished. The number in use at the end of the year was 1,336, which are emptied daily. Ashbins and ashpits at domestic premises are emptied approximately once weekly. The Bell-Cart service provides for the daily removal of domestic refuse from shops, business premises, and dwelling-houses, where no provision can conveniently be made for the storage of this description of refuse. This service has to be conducted within limited hours during the morning to suit the convenience of occupiers and the exigencies of business.

The night service has now been discontinued, most of the ashpits having been abolished and bins substituted. Both bins and ashpits are now emptied during the early morning.

Horse middens are emptied weekly and abattoir garbage is removed nightly, 2,708 tons of abattoir garbage being removed during 1923.

All ashpit and ashbin refuse is tipped direct into the carts and motors, and all loaded carts and motors traversing the streets are covered.

The refuse collected is disposed of by burning at six destructors, by disposing at sea, by sale to farmers, and by other use for agricultural purposes. During the year 170,897 tons were burned at the destructors, 45,005 tons were deposited at sea by hopper barge, 34,061 tons were sold to farmers, and 87,225 tons were otherwise disposed of for filling up pits, and agricultural purposes, etc. In addition, approximately 51,200 tons of clinker residue from destructors were used almost entirely in the construction and maintenance of roads, tramways, and in the manufacture of mortar and concrete slabs, etc.

METEOROLOGY.

Mr. W. E. Plummer, M.A., F.R.A.S., Astronomer to the Mersey Docks and Harbour Board, has kindly furnished the following tables relating to Meteorological observations made by him at the Liverpool Observatory, Bidston :—

LIVERPOOL OBSERVATORY, BIDSTON, BIRKENHEAD.

Latitude 53° 24′ 5″ N. Longitude 3° 4′ 20″ W.
Height above the Mean Level of the Sea 202 feet.

1923.	Barometer. Mean.	Temperature. Mean.	Rainfall.		Mean Humidity of the air (Complete Saturation equal 100).
			Amount.	No. of days on which ·01 in. or more fell.	
	Inches.	Degrees.	Inches.		
January	30·128	44·4	1·422	19	87
February	29·498	42·1	3·093	21	85
March	30·017	44·6	1·142	15	79
April	29·741	46·5	2·123	13	74
May	29·907	48·0	2·750	22	75
June	30·131	53·8	0·291	9	77
July.....	29·951	62·4	2·835	17	76
August	29·860	58·8	2·787	21	76
September	29·910	55·0	3·166	19	79
October	29·631	49·8	3·948	25	81
November	29·743	40·8	3·397	18	81
December	29·931	41·4	3·889	22	88

Difference from the Average Quantities observed during the last 56 years.

1923.	Barometer.		Temperature.		Rainfall.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees.	Degrees.	Inches.	Inches.
January	0·195	...	5·2	...	...	0·730
February	...	0·428	0·9	...	1·366	...
March	0·138	...	2·3	...	...	0·731
April	...	0·106	...	0·8	0·456	...
May	...	0·064	...	3·8	0·803	...
June	0·137	...	...	3·6	...	1·727
July	0·001	...	1·7	...	0·150	...
August	...	0·059	...	1·7	...	0·256
September	...	0·059	...	1·2	0·423	...
October.....	...	0·256	0·2	...	0·613	...
November	...	0·158	...	2·4	0·921	...
December.....	0·088	...	1·5	...	1·117	...

Observations of Velocity of Wind.

1923.	Average Hourly Velocity for Month.	Maximum Hourly Velocity.	Date.	Minimum Hourly Velocity.	Date.
	Miles.	Miles.		Miles.	
January	24·0	57	Jan. 10	0	January 16, 17.
February....	18·4	47	Feb. 2	0	February 14.
March.....	14·7	40	Mar. 7	0	March 21, 23.
April	16·6	42	April 26	1	April 1, 24.
May	17·5	49	May 13	0	May 22.
June	20·5	53	June 9	1	June 2, 17, 26.
July	15·3	51	July 26	0	July 13, 15.
August	18·8	62	Aug. 29, 30	0	August 11.
September..	17·1	50	Sept. 20	0	Sept. 13.
October.....	18·8	50	Oct. 9	2	October 30,
November...	18·0	67	Nov. 16	1	November 5, 12, 23 24.
December...	18·5	50	Dec. 22	1	December 5, 9, 21, 25.

HOUSING.

The Annual Report for 1923 records the number of houses dealt with from the year 1865 under the Local Acts, also under the Housing of the Working Classes Acts since the year 1901, the total number being 12,024.

UNHEALTHY AREAS DEALT WITH.

Date of Representation.	Area.	Population.	Houses.	Dwellings Erected.
July, 1901	Hornby Street	2,431	534	455
Do.	Upper Mann Street	743	176	83
September, 1906 ...	Burlington Street	607	144	114
March, 1907 ...	Beau Street	532	128	...
Do. ...	Bevington Street	1,154	295	224
Do. ...	Holly Street	563	124	78
Do. ...	Frank Street	627	127	68
Do. ...	Grafton Street	304	70	60
August, 1907 ...	Saltney Street...	88	68	48
June, 1912	Prince Edwin Street	737	187	...
Do.	Rathbone Street	445	128	...
Do.	Mason Street	301	107	28
Do.	Saltney Street...	415	93	...
Do.	Blenheim Street	230	48	In progres
Do.	Penrhyn Street	488	116	26
Do.	Gore Street	78	76	24
Do.	Sparling Street	153	33	16
Do.	Jordan Street	Nil	Nil	31
June, 1922	Burlington Street	1,407	307	...
Do.	Hopwood Street	343	52	...
January, 1923 ...	Great Richmond Street ...	148	35	...
Do. ...	Rankin Street...	476	96	...
		12,270	2,944	1,260

BURLINGTON STREET, HOPWOOD STREET, GT. RICHMOND STREET, AND RANKIN STREET AREAS.

The boundaries of these Areas, together with a Report and Statistics on each area will be found in the Annual Report for 1922.

An Inquiry in respect to the Official Representation of the Medical Officer of Health regarding these areas was held on July 19th, 1923, and the Confirming Order from the Ministry was received on the 11th January, 1924.

The present position in respect to these Areas is as follows :—

Burlington Street Area.

Plans have been approved by the Ministry indicating the erection of six tenement dwellings on the site of the old school in Bond Street, and application has been made to the Ministry to sanction the loan. It is expected that the new dwellings will be commenced at an early date, as it is possible, owing to the old school and playground, to start the work without dispossessing any of the persons.

Gt. Richmond Street Area.

In connection with this area there is a small piece of vacant land, which permits of the commencement of the work in respect to the erection of six tenement dwellings. Plans have been prepared, and application has been made to the Ministry to sanction the loan.

Rankin Street and Hopwood Street.

All the houses on these two areas are occupied, and no steps can be taken in regard to the clearance of the site until dwellings are available for the dispossessed.

Prince Edwin Street, Saltney Street, and Blenheim Street Areas.

The first Official Representation in respect to these Areas was made in June, 1912, and the Confirming Order was made on August 1st, 1913.

Negotiations were commenced with the various owners of properties, but the War intervened and interfered with the progress of the work, although during the years 1914 to 1923 a large proportion of the property was purchased by the Corporation.

Owing to the lapse of powers and acting upon the instructions of the Ministry of Health a second Official Representation was made, dated 2nd October, 1923, to enable the Corporation to complete the purchase of outstanding properties.

On April 29th, 1924, the usual Official Inquiry was held by an Inspector of the Ministry of Health so as to enable the completion of formalities in respect to purchase.

The official representations of the Medical Officer of Health is as follows :—

To the Urban Sanitary Authority
of the City of Liverpool.

I, Edward William Hope, Medical Officer of Health for the City of Liverpool, do hereby represent that in my opinion, within certain Areas in the district of the Urban Sanitary Authority of the City of Liverpool, described in the Schedule hereto, there are (*a*) certain houses, courts and alleys which are unfit for human habitation, and that (*b*) the narrowness, closeness, and bad arrangements and bad conditions of the streets and houses and groups of houses within such Areas, and the want of light, air, ventilation, and proper conveniences and other sanitary defects, or one or more of such causes, are dangerous or injurious to the health of the inhabitants, either of the buildings in the said Areas or of the neighbouring buildings, and that the most satisfactory method of dealing with the evils connected with such houses, courts or alleys, and the sanitary defects in such Areas, is an Improvement Scheme for the re-arrangement and reconstruction of the streets and houses, within such Areas, or of some of such streets and houses.

E. W. Hope,
Medical Officer of Health
for the City of Liverpool.

Public Health Department,
Liverpool, 2nd October, 1923.

Prince Edwin Street Area.

An area on the south side of Prince Edwin Street, beginning with and including the premises No. 18, Prince Edwin Street, thence running eastwardly to and including the premises No. 48, Prince Edwin Street, thence across Beresford Street and continuing in an eastwardly direction to the westwardly boundary of No. 86, Prince Edwin Street, thence turning and running in a southwardly direction along the westwardly boundary of No. 86, Prince Edwin Street, to Prince Edwin Lane, thence turning and running in a westwardly direction in an irregular line along the north side of Prince Edwin Lane across Beresford Street, thence continuing in an irregular line in a westwardly direction along the north side of Back Beau Street to and including the premises No. 16

in No. 2 Court, Prince Edwin Street, thence turning and running in a northwardly direction to the premises No. 18, Prince Edwin Street, aforesaid.

Saltney Street Area.

An area on the south side of Saltney Street, beginning with and including the premises No. 189, Great Howard Street, thence running westwardly along Saltney Street to and including the premises No. 13, Saltney Street, thence turning and running southwardly along the westwardly boundary of No. 13, Saltney Street, and Nos. 2, 4 and 6 in No. 7 Court, Saltney Street, for a distance of 62 feet, thence turning and running in an eastwardly direction to the rear of the premises No. 6, Dublin Street, thence turning and running southwardly along the westwardly boundary of No. 6, Dublin Street, to Dublin Street, thence turning in an eastwardly direction along Dublin Street to and including the premises No. 179b, Great Howard Street, thence turning and running northwardly along Great Howard Street to the premises No. 189, Great Howard Street, aforesaid.

Blenheim Street Area.

An area on the south side of Silvester Street, beginning with and including the premises No. 2, Silvester Street, thence running in an eastwardly direction to and including the premises No. 28, Silvester Street, thence turning and running in a southwardly direction along the east side of No. 28, Silvester Street, and the fronts of the houses Nos. 1, 2, 3 and 4 in No. 8 Court, Silvester Street, thence turning and running in a westwardly direction to and including the premises No. 5, Saint Augustine Street, thence turning and running in a northwardly direction along the fronts of Nos. 5, 6, 6a, 7, 7a, 8, 8a, 9, 9a, Saint Augustine Street, to No. 2, Silvester Street, aforesaid.

The foregoing representation was approved by the City Council as the Liverpool (Prince Edwin Street, Saltney Street, and Blenheim Street) Improvement Scheme, 1923, and the following particulars and statements are submitted in pursuance of the instructions of the Ministry of Health :—

(*The paragraphs are numbered to correspond with the instructions of the Ministry of Health.*)

(i) The areas affected by the scheme comprise :—

Prince Edwin Street Area	8,630	square yards	or thereabouts.
Saltney Street Area	2,176	,,	,,
Blenheim Street Area	1,900	,,	,,
Total	12,706	,,	,,

(ii) The number of persons of the working class who will be displaced is, as nearly as can be ascertained, including lodgers, in the Prince Edwin Street area 476 persons, in the Saltney Street area 234 persons, and in the Blenheim Street area 271 persons. Total, 981 persons. The approximate rents paid by such persons are from 5s. to 10s. per week, free of rates and taxes.

(iii) It is intended to provide accommodation for such number of those persons of the working class who will be displaced in the areas affected by the scheme in such place or places either within or without the limits of the said areas as the Ministry of Health, being the confirming authority within the meaning of the above Act, may require.

(iv) After obtaining possession of the land the Corporation propose to remove the buildings standing thereon and afterwards to appropriate the land for the erection of suitable dwellings or for any other purpose that they may think desirable, or to dispose of the site by a sale in fee simple or by building leases, as they may deem to be most advantageous.

(v) The areas included in the Official Representation of the Medical Officer of Health are coloured pink on the plans.

The areas included in the Improvement Scheme are the parts of those included in the Official Representations which are coloured pink on the plans.

A Book of Reference to the deposited maps, in duplicate, accompanies this Scheme.

Particulars of the areas included in the Scheme are given in the Book of Reference and the plans.

No lands not comprised in the areas in respect of which the Official Representation was made have been (*a*) excluded from the areas of the Improvement Scheme by the Corporation, or (*b*) included in such scheme by the Corporation under Section 6 (1) (*a*) of the Act, as amended by the Housing, Town Planning, &c., Act, 1909.

All the lands included in the areas of the Improvement Scheme are intended to be taken compulsorily and are coloured pink on the plans.

STATISTICS IN RESPECT TO UNHEALTHY AREAS.

DATE OF SECOND OFFICIAL REPRESENTATION, 2ND OCTOBER, 1923.

	Prince Edwin Street.	Saltney Street.	Blenheim Street.
Population	476	234	271
Total Number of Houses	92	60	49
Total Number of Insanitary Houses	90	59	47
Premises Unoccupied	5	13	Nil.
Licensed Premises	—	1	—
Average Annual Rates per 1,000.			
General Death	25·86	30·62	21·52
Phthisis Death	2·8	6·4	0·61
Infant Mortality	148·0	119·04	146·34
Births	43·76	29·41	50·43

PRINCE EDWIN STREET AREA.

Plans have been approved for the erection of 60 tenement dwellings, 36 being three-roomed, 24 two-roomed, on this area, and the work is well advanced. In due course the tenants of the occupied insanitary houses will be offered a new dwelling, the insanitary houses will be demolished, and the scheme of reconstruction approved by the Minstry of Health will be completed without delay.

BLENHEIM STREET AREA.

The Ministry of Health have approved of plans indicating the erection of 24 tenements on this vacant land, and 18 tenements have already been completed. The work in connection with the remaining 6 tenements is

in progress. A suggested lay-out plan has been approved by the Housing Committee, indicating the erection of 27 tenements, with accommodation for 186 persons.

Saltney Street Area.

This area is an extension of the area upon which the Corporation in the year 1911 erected 48 dwellings, and the treatment of the area will, no doubt, be a further extension on the lines of the existing Corporation Dwellings.

A suggested lay-out plan has been approved by the Housing Committee, indicating the erection of 30 tenements, with accommodation for 204 persons.

Rathbone Street Area.

At the present time all the property on this area is in possession of the Corporation, there are 17 houses occupied and seven are in a derelict condition.

An application was made by the Corporation, asking the Ministry for their consent to the variation of the Liverpool (Prince Edwin Street, &c.) Order, 1913, which includes the Rathbone Street Area. In the formal application for consent the following reasons are submitted by the Town Clerk on behalf of the City Council :—

"1. Since the making of the Order in 1913, and as the work upon "the erection of the Liverpool Cathedral has progressed, the "Corporation have given very serious attention to the best means "of preserving the amenities of the Cathedral. The Rathbone "Street Area is in very close proximity to the Cathedral, and on "that account the Corporation have decided that, with the approval "of the Ministry, they would for the time being retain the Rathbone "Street Area as an open space, with the ultimate intention of "having this particular area free for development in connection "with the Cathedral.

"2. In order that those persons who would have been "accommodated on the site may be provided with alternative "accommodation in the vicinity, the Council have given instructions "to their Surveyor to acquire sites in the neighbourhood, and the "work of erecting dwellings will proceed with the least possible "delay."

Beau Street Area.

All the insanitary houses have been demolished, and the site cleared, the question of rebuilding has been delayed owing to proposed street works.

The vacant land which is the site of the demolished houses has been let on short tenancies for the purposes of stores.

Woolton Area.

The City Council have erected 24 new dwellings at the corner of Speke Road and School Lane, Woolton.

The proposed erection of a further 12 houses has been considered, but the work has been deferred on financial grounds.

Pitt Street Area.—St. Peter's Ward.

The question of providing housing accommodation in this area has again been considered, and negotiations have been opened with a view to the purchase of certain premises which, when demolished, will permit of building operations being commenced without disturbing existing tenancies.

Repairs to Houses.

The Medical Officer, in a Report to the Health Committee, directed the attention of the Committee to increasing difficulties arising from dilapidations in houses which are let in lodgings and which are not of a kind dealt with by the Housing Committee. The present method of serving Sanitary Notices in regard to individual defects in such houses is unsatisfactory.

The Medical Officer recommended that the power given under Section 26 of the Housing and Town Planning Act, 1919, should be made use of and bye-laws drafted which would enable more effective measures to be taken. It is true that certain powers in this connection already exist and are in operation, but the adoption of the proposal would enable the supervision to be more effective in such well-known cases as Gerard Street, Circus Street, Clare Street, etc. An important point which would be gained is that in the event of default on the part of the owner the work can be done by the Local Authority and the amount recovered from the Owner.

Attention was also called to Section 28 of the same Act, which authorises the Local Authority to serve notices upon the owner of any house suitable for occupation by persons of the working classes to make and keep such house in all respects suitable for human habitation. The owner, if he elects to do so, may declare his intention of closing the house for human habitation, and thereupon a closing order shall be deemed to have become operative under this Act. The temporary difficulty, namely, that there is nowhere for the inmates of the insanitary house to go, would not invalidate the closing order, which would become operative so soon as the return of the private builder to his former field of enterprise made the necessary house available. The deplorable condition of so many slum areas in the City, areas which at the present rate of progress will be left to degenerate still further for many years to come, might possibly be ameliorated by the procedure suggested.

This Report was referred to the Town Clerk.

Provision of Dwellings.

With regard to the urgent need for the provision of houses, the Medical Officer of Health submitted a Report to the Health Committee on the After-care of Tuberculous patients, also a communication from the Ministry of Health arising from conferences which have taken place with the Minister of Pensions (as regards ex-service cases of tuberculosis), and also with the Minister of Labour in reference to the after-care of tuberculous patients. The Ministry recommend that steps should be taken in good time by the Medical Officer to ascertain the home conditions of patients about to leave sanatoria; if the home conditions are unsatisfactory the Medical Officer should take such action as may be practicable to improve those conditions.

The difficulty which presents itself in Liverpool arises, in a word, from the shortage of houses, and patients leaving the sanatoria are compelled to return to conditions which are not only inimical in every way to the prospects of the patient's recovery, but tend to lead, and have led, to infection of other members of the household.

The communication from the Minister merely brings into prominence one of the many evils resulting from want of housing accommodation, which can only be remedied by supplying that want. It must be

apparent that the presence of a consumptive in a room already overcrowded by a family occupying it, must be a source of grave embarrassment.

It is clear that the provision of 6,000 houses has gone a considerable way in meeting the demands of the public, but as a matter of fact it has not yet overtaken arrears, still less has it met the needs of the growing population, which are daily becoming more urgent, and letters received are becoming more insistent as well as more pitiable. Meanwhile, many owners of small houses are applying to the County Court for ejectment orders against the tenants, as the owners themselves wish to live in those houses. This process clearly adds to the difficulty.

The large increase in the number of families living in one single room leads to the unfortunate necessity of placing large numbers of sub-let houses under registration and supervision. During 1923 some 537 such additions were made.

To express the position in regard to housing and population in figures, during the ten years preceding 1914—17,743 houses were built, that is at a rate of 1,774 houses per year. During the ten years succeeding 1914, 7,576 houses have been built, nearly all by the Housing Committee, but during that period the population has increased by 59,846, so that reckoning 4·5 people per house, we are worse off from the point of view of housing accommodation than we were at the close of 1914, by rather more than 10,000 houses. It is true that the proportion of house-building has been greater than that in any other comparable city, but it must also be remembered that the necessities of Liverpool are, so far as can be ascertained, very much greater than those of any other city.

The Medical Officer is aware of the many difficulties besetting the provision of houses, such as the protraction of negotiations with the Ministry; difficulties in reaching agreements acceptable to private builders; shortage of labour, slowness or difficulties with the Trade Unions in regard to the amount of work or dilution of labour; but in view of the fact that the original undertakings of the Housing Committee are virtually approaching completion, and that failing other means of stimulating house-building, the work will cease altogether, it is

impossible to resist the conviction that an amplified scheme to provide houses should, with the concurrence of the Ministry, if necessary, be forthwith embarked upon.

To appreciate the urgency of the matter it is only necessary to see the conditions under which so many families are at present existing in this City. These conditions are set forth at length in the large number of letters received daily, and from the reports made by the Sanitary Inspectors and Health Visitors.

Confirmation is also to some extent given by the latest Census Returns, viz., in 1921. These figures, published by the Registrar-General, showed that 11,064 families were each occupying only one room, whereas in Manchester the one-room families were only 3,822. The percentage of families occupying one room was 6·4 in Liverpool, against 2·3 in Manchester, and Liverpool had the highest percentage of one-room families of any town in Lancashire.

This will probably explain why so many births in Liverpool take place in Institutions, as it is obvious that when families are living under such deplorable conditions many women will seek the shelter of the Workhouse Infirmary rather than remain huddled up in one or two rooms with the rest of the family in a house sub-let to various families.

In putting these facts before the Committee the Medical Officer is anxious to point out the great urgency of the housing question in this City, and the prejudicial effect which it is likely to have on the public health unless prompt measures are put into operation to meet the serious position which is gradually becoming more accentuated.

The following are types of the large numbers of letters which have been received from applicants, and indicate some of the various grounds of the applications :—

Extracts from Letters.

Family O'L——, 50, C—— Street.

"Would you please use your influence in getting me a house. I have been in apartments for the last nine years, and I have six children. My husband is a discharged soldier. I have a son 16 years, and I have five daughters, aged as follows :—14, 11, 5, 4 and 1 year. I have been told by a Doctor that my child is going into a decline, and I think this is due to the way we are all packed in." Health Grounds.

Family T——, 19, N—— Street.

Health Grounds.

"I am just getting over an illness, and my wife and the two children have had to stay in the bedroom owing to the ceiling falling down in the living room. The two children have had Whooping Cough, and the baby is not feeling well again, and with living at the top of a large house it does not give the boy any place to play without interrupting the baby when asleep. I am in regular work with the Liverpool Corporation Water Works."

Family P——, 48, G—— Street. (Letter from applicant's Mother.)

"I now take the pleasure to write to you on behalf of my son, as he has been asking for a house ever since he came from France. He is a man that has been badly gassed, and has lived in a bedroom for 4 years, and he seems to be failing, as he is boxed up with no fresh air to his room, with only a small window. There is my son and his wife and two children, and all are very poorly. He is falling in bad health through being closed up in a room. He has been all through the War from 1914, and it seems so hard to think he cannot get a house or hut. His work is among paint and white lead all day and no fresh air when he goes home."

Family MacC——, 279, E—— Lane.

"There are three children, aged 3 years, 2 years, and 7 months respectively, and as Mr. MacC. is on night duty at Messrs. Bibby & Sons, he finds it impossible to sleep during the day. His health is suffering, as is also that of his wife. She appears to be suffering from the strain of trying to keep the children quiet while the father obtains some rest."

Family H——, 26a, T—— Street.

"I have made an application for a house about two years ago. Since living in this place we have had the children under the Doctor, and also my wife. Dr. M—— has visited us, and he states that the house is not fit for the children to live in. There is no part of the house on the ground floor, only three rooms upstairs in line with the loft over stable. My wife is expecting to go to bed in a few months' time from now, and there is no accommodation for her in that respect.

"I have one boy 5 years of age, whom the Doctor will not let go to school, and he says the children will be in a poor state of health until we get out of here.

"I am in constant work at the Dock Board, and will be able to pay the rent of one of the new houses.

"Dr. M—— will verify the statements I have made, so I do hope you will do your best for me, so that we can get settled down before my wife's confinement."

Family H——, 77, C—— Street.

"Will someone please call to the above address. We are living in a damp cellar, and I am afraid it will affect baby's health. The Landlord has the house let off, and with a barber's shop above our heads, the noise is awful, and my nerves are bad, also my husband's, who is an ex-service man with nearly five years' service. Please can you tell us if we will ever get a house, and oblige." Health Grounds.

Family P——, 47, C—— Street.

"My husband, who is an ex-service man and has splendid references from the Army and Civil Life. He suffers from dysentry. We are under notice to quit, and live in one living room, in which we eat, sleep, keep the food, wash and dry the clothes, and the gas meter is beside the bed. The landladies we have been with have quarrelled with us because my husband has to pass through the kitchen frequently to the w.c.

"My husband is in constant employment, and I can pay the rent of a house. I would rather drown myself than face another landlady."

Family O'C——, 79a, H—— Road.

"My boy is under treatment from the Chest Hospital. I have only one bedroom in which five of us are sleeping, also my girl 14 years of age has to sleep with my boy who is under treatment, which you know is not right." Tuberculosis.

Family W——, 18, C—— Street.

"I have a girl 10 years who has been in Freshfield Sanatorium for eight months. She is expecting her discharge any day. She is suffering from Tuberculosis. When she comes home I have no sleeping accommodation. My husband, three children and myself sleep in one room. Surely that eight months is not to be wasted and my other children's health affected."

Family D——, 63, P—— Street. (Also Doctor's note.)

"I have made application twice for one of the Corporation houses owing to the overcrowded condition of my family. I have one daughter aged 18 years, son 16 years, two younger daughters 13 and 10 years, and my husband has been under treatment at Delamere Forest Sanatorium, and my three daughters are threatened with Tuberculosis. Enclosed is a note from Dr. M—— recommending removal."

Note from Dr. M——:—"Mrs. D——'s family would benefit by removal to a suitable house. There is a strong T.B. element in this family."

Family P——, 18, P—— Street. (Note from Dr. W——.)

"Mrs. P——, 18, P—— Street, and her son, aged 4 years, are both suffering from Phthisis.

"I should be obliged if this family can have preference for occupation when new houses at Mill Lane are built on account of health, which would be improved if they moved from their present position."

Family P——, 105, P—— Street.

Expectant Mothers.

"I am in great need of a house; I have six children and another expected shortly, and am only in two rooms, and have only a small fireplace to cook and do all the washing. I have to carry water up two flights of stairs. My eldest boy, 15 years, has to sleep in the same room as two girls, aged 13 and 11 years.

"My baby, 12 months old, fell down the stairs last week, and I am nervous if the children go near the door, so that they don't get enough fresh air."

Family H——, 23, V—— Street.

"I would be very grateful to you if you could see into my case in getting me a house. There are four children, my husband and myself, sleeping and eating in the one room, and in the other room there is father, son and mother and daughter, and I am expecting to go to bed for another baby, so I think something should be done in regards to our health, so I will be very glad if you could see into my case and do something for me. The ages of the children are, females 10, 7, 5 years, and male, 2 years 2 months."

Family L——, 9, C—— Street.

"I have not heard any word from the Housing Department, and I'm in rather a fix to know what to do about engaging a nurse. You will see by the Report that we have three children, and I'm expecting to be confined again in July, and we are at present living in a small back kitchen, and five of us sleeping in a small bedroom over the back kitchen, which is impossible to be healthy for the children, and also there is no convenience for me to be confined in the room, as a doctor or nurse could not move around. I cannot go away to be confined, there is no one to look after my three children. I can afford to pay rent up to 12s., and any district will do as long as it's a house. I may mention, Sir, it is $3\frac{1}{2}$ or $4\frac{1}{2}$ years since we first put in an application. My husband is an ex-service man, and one of the first to join in 1914."

Family M——, 19, N—— Road.

"We have only one room for eating and sleeping, and four of us, two children, my husband and myself; also expecting another in July, and the only thing for me is to take my children into the streets, as the people where we are living are wanting the room, as they are overcrowded themselves. There are three families in one place—14 in one house. My husband is in constant work, and he is also a discharged soldier, and was in France five years. His wages are £2 14s. 0d. per week."

Family McG——, 48, G—— Street.

"I am in apartments at the above address with my husband and six children. We have only one room, in which we all sleep and eat. I have to pay 14s. per week for this one room. Since I have lived in this room my children have not been free from sickness. I am writing to you, Sir, to see if you can possibly put me in the way of getting possession of a house." Over-crowding.

Family B——, 18, T—— Street.

"Owing to the bad health of my wife, I am writing to ask you once again to use your influence to obtain a house for us. My wife's health is greatly injured owing to the conditions under which we are living through lack of air and room, seven of us living in one room, and as my wife is suffering from Chronic Asthma, you will see how unhealthy it is for all."

Family D——, 21, E—— Street.

"My family consists of self, wife and four children, lad 20 years and three girls 19, 12 and 11 years. To accommodate my family I have two small bedrooms, so to be decent (note ages) I have either to put a camp bed in the parlour or practically live and sleep apart from my wife. My wife, who is in bad health, has to wash in the open without the use of a boiler, even the wringer has had to stand in the yard for years, having no other room for it. My second eldest girl is not long out of Heswall Hospital, open air ward, and Dr. F——, of the Children's Hospital, said to have a fair chance, she must have fresh air. She has to sleep in a stuffy bedroom with three others, and it causes us much anxiety.

"I am an ex-service man, receiving a pension. We are all Liverpool born and reared, and I am in constant employment and am capable of paying rent."

Family B——, 71, W—— B—— Road. (Letter from Rev. W. R——.)

"At present the house is seriously overcrowded—one bedroom being occupied by five, another by three, the father and mother and daughter (over 20 years of age). Mrs. B——'s family consists of young children rapidly growing up. She is a widow of one of the war victims, and is in receipt of a pension."

Family C——, 261, Up. P—— Street.

"We have had our name down on the waiting list of the Liverpool Corporation Housing Committee for the last three years. We have four children, aged 7 years 10 months, 6 years 2 months, 3 years 10 months, and 2 months, and are living in two rooms without any convenience whatever. We are compelled to wash, cook and do everything in the living room, and as every drop of water we use and all waste water has to be carried up and down two flights of stairs from the basement, my life is a perfect slavery, as I suffer from varicose veins. We have no chance of bettering our condition, as landladies will not have you with four children.

Over-crowding.

"My little girl, aged 7 years 10 months, has been suffering since the age of 6 with Tubercular Peritonitis, with a tendency to Tubercular lungs. She received treatment at the Royal Liverpool Children's Hospital, Thingwall Branch, Barnston, Birkenhead. She came home two months ago, looking very bonny, but our great dread is that she will go back again unless very well looked after. We are supplying the good food, but, as you can see, it is impossible to give her the fresh air and sole sleeping accommodation that she needs cooped in two rooms. I am sure that it was the close confinement of rooms that undermined her constitution in the first place. It is also not fair to the other children to have her sleeping in the same room."

Family B———, 51, D——— Street.

"There are nine of us in a four-roomed house—six adults and three children. Cannot something be done for us in this awful plight?

Mixed Sexes.

"Three children and three adults sleep in one room; it is disgraceful, and we cannot get a house anywhere. It is not that we cannot afford one, as my father and sister live with us. I receive £4 0s. 0d., my father £3 4s. 0d., and my sister £1 0s. 0d. per week, so we can afford a Corporation house. I should be very pleased and grateful if you could kindly see to this deserving case. It is not very nice to have a sister 19 years of age sleeping in the same room as a man and wife and three children."

Family A———, 49, S——— Street.

"I have been in ill-health, partly due to overcrowding. There is a girl of 16 years, a boy of 17 years, another aged 11 years, husband and myself, sleeping in a small bedroom. My husband is in constant employment, he is a car driver."

Family S———, 13, O——— Road.

"The conditions under which we are living are terrible. Just fancy, mother, father, three sons aged 28, 21 and 13, and three daughters aged 25, 23 and 7 years, all sleeping in one bedroom. The boy 13 years has not been to school for five years on account of his health. He should really have a bedroom to himself. He cannot get to sleep at night with the bedroom being so stuffy."

Family K———, 29, L——— Lane.

Eviction.

"There are six of us living and sleeping in one small room. My wife has had three operations with Tubercular Hip. We were evicted from 14, L——— H——— Lane last January. My wife and baby were in a very weak state at the time. The person we are staying with took pity on the children and took us in while we got another shelter. I find I am unable to get rooms with four children. It is a crime to have children these days. The person we are staying with has four children, and is complaining about being overcrowded, as it is only a four-roomed cottage."

HOUSING OF THE WORKING CLASSES ACTS, 1890—1909.

In view of the shortage of dwellings no Closing Orders were made under the above Act during the year.

The approximate number of insanitary houses existing on the 1st January, 1924 (including Added Areas), were as follows :—

Number of Courts	299
Number of Court Houses	1,632
Approximate number of Front Houses ...	932

RE-HOUSING.

NEW DWELLINGS IN SUBURBS.

The Housing Committee have erected the following dwelling-houses since 1919 :—

	"A"	"B"	Totals.
Elms House Estate	252	—	252
Larkhill Estate	470	1,583	2,053
Fazakerley Estate	62	150	212
Edge Lane Drive Estate	495	290	785
Walton and Clubmoor Estate ...	469	409	878
Springwood	224	784	1,008
Partly Developed Estates	—	554	554
Woolton	24	—	24
	1,996	3,770	5,766

All these dwellings are completed and occupied.

In addition to the above, 488 wooden bungalows have been converted from military huts for temporary occupation as dwellings on a site at Knotty Ash, formerly used as a military camp, and all of these huts are tenanted, most of them since the early part of 1920.

Six bungalows have now been removed for the purpose of road widening.

RE-HOUSING IN OLD CITY AREA.

The number of dwellings provided by the Corporation up to the present is 3,002; their situations and dates of opening are as follows :—

Situation	Date Opened.	Number of Tenements.
St. Martin's Cottages	1869	124
Victoria Square	1885	270
Juvenal Dwellings	1891	101
Arley Street	1897 (1902/3)	46
Gildart's Gardens	1897 1904	229
Dryden Street	1901	182
Kempston Street	1902	79
Kew Street	1902/3	114
Adlington Street Area	1902/3	272
Stanhope Cottages	1904	60
Mill Street	1904	55
Hornby Street	1904 1906/7	449
Clive Street and Shelley Street	1905	83
Eldon Street	1905	12
Upper Mann Street	1905/6	88
Combermere Street	1909	49
Burlington Street	1910	114
Saltney Street	1911	48
Grafton Street	1911	60
Bevington Street Area	1912	218
Northumberland Street Area	1913	68
St. Anne Street Area	1914	72
Gore Street	1916	24
Jordan Street	1916	31
Sparling Street	1916	16
Penrhyn Street	1921	26
Mason Street	1921	28
Blenheim Street	1923	18
St. Agustine Street	In progress	6
Prince Edwin Street	do.	60
Total	—	3,002

DESCRIPTION OF TENEMENTS.

Number of 1-roomed dwellings	193
Number of 2-roomed dwellings	1,364
Number of 3-roomed dwellings	1,162
Number of 4-roomed dwellings	283
	3,002
Number of self-contained dwellings (included in above)	133
Number of shops	31

RENTALS.

The rentals of the tenements vary from 2s. 6d. to 8s. 6½d., and those of the self-contained cottages from 8s. 6½d. to 10s. 2½d. per week.

CORPORATION TENEMENTS.

(Old City Area.)

VITAL STATISTICS.

Comparative Table.

ALL DWELLINGS.

Population, 1918	12,139
Population, 1919	12,286
Population, 1920	12,664
Population, 1921	12,870
Population, 1922	13,402
Population, 1923	13,597

	1918.		1919.		1920.		1921.		1922.		1923.	
	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1.000.
Births	424	34·9	438	35·6	583	46·03	517	40·1	542	40·44	475	34·93
Deaths	358	29·4	262	21·3	279	22·03	246	19·1	245	18·28	242	17·79
Infantile Mortality ..... Deaths under 1 year	73	172·1 per 1,000 Births.	62	141·5 per 1,000 Births.	92	157·80 per 1,000 Births.	68	131·5 per 1,000 Births.	69	127·30 per 1,000 Births.	60	126·31 per 1,000 Births.
Phthisis	27	2·2	24	1·9	26	2·05	27	2·09	26	1·9	28	2·05

CORPORATION TENEMENTS.

(Old City Area.)

VITAL STATISTICS.

Comparative Table.

RESTRICTED DWELLINGS.

Population, 1918	10,235
Population, 1919	10,324
Population, 1920	10,642
Population, 1921	10,840
Population, 1922	11,361
Population, 1923	11,516

	1918.		1919.		1920.		1921.		1922.		1923.	
	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.
Births	357	34·8	371	35·9	485	45·57	431	40·6	452	39·78	406	35·25
Deaths	308	30·09	220	21·3	240	22·55	206	19·003	208	18·30	211	18·32
Infantile Mortality ..... Deaths under 1 year	63	176·4 per 1,000 Births.	52	140·1 per 1,000 Births.	81	167.01 per 1,000 Births.	54	125·2 per 1,000 Births.	62	137·16 per 1,000 Births.	51	125·61 per 1,000 Births.
Phthisis	23	2·2	20	1·9	22	2·06	21	1·9	24	2·11	23	1·99

CORPORATION TENEMENTS.

(Old City Area.)

VITAL STATISTICS.

Comparative Table.

UNRESTRICTED DWELLINGS.

Population, 1918	1,904
Population, 1919	1,962
Population, 1920	2,022
Population, 1921	2,030
Population, 1922	2,041
Population, 1923	2,081

	1918.		1919.		1920.		1921.		1922.		1923.	
	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.	Total number.	Rate per 1,000.
Births	67	35·1	67	34·1	98	48·46	86	42·3	90	44·09	69	33·15
Deaths	50	26·2	42	21·4	39	19·28	40	19·7	37	18·12	31	14·89
Infantile Mortality ..... Deaths under 1 year	10	149·2 per 1,000 Births.	10	149·2 per 1,000 Births.	11	112·24 per 1,000 Births.	14	162·7 per 1,000 Births.	7	77·77 per 1,000 Births.	9	130.43 per 1,000 Births.
Phthisis	4	2·1	4	2·03	4	1·9	6	2·9	2	0·97	5	2·40

CORPORATION TENEMENTS.

(Old City Area.)

VITAL STATISTICS.

ALL DWELLINGS.

Statistics as to Birth Rate and Infantile Mortality Rate in Corporation Dwellings as a whole for the four years 1920 to 1923 :—

Year	Birth Rate per 1,000 of population.	Infantile Mortality. Deaths under 1 year per 1,000 births.
1920.....	46·03	157·8
1921.....	40·10	131·5
1922.....	40·44	127·3
1923.....	34·90	126·3

CORPORATION TENEMENTS.

ALL DWELLINGS.

Average Birth Rate for the 4 years 1920 to 1923	40·37
Average Death Rate for the 4 years 1920 to 1923	19·30
Average Infantile Mortality Rate (under 1 year) 1920 to 1923	135·70
Average Phthisis Death Rate for the 4 years 1920 to 1923...	2·02

CELLARS.

On the 31st December, 1912, there were 1,614 cellars let as separate dwellings.

The present position in regard to these cellars is as follows:—

Number at present unoccupied	764
Number occupied as kitchens or wash-cellars ...	410
Number occupied as a kitchen and separately let with the front parlour	111
Number permanently closed	208
Number demolished	9
Number of cellars occupied as separate dwellings, 31st March, 1923	111

NUMBER OF HOUSES ERECTED AND TAKEN DOWN DURING THE YEAR ENDING DECEMBER, 1923.

DISTRICTS.	Number Erected.	Number Taken Down.
Scotland...	18	4
Exchange	—	6
Abercromby	1	—
Everton	—	9
Kirkdale...	—	—
West Derby (West)	—	5
Toxteth	—	5
Walton	414	—
West Derby (East)	475	9
Wavertree	51	1
Toxteth (East)	1	—
Garston	688	3
Fazakerley	—	—
Woolton	61	1
Totals	1,709	45

Of the 1,709 dwelling-houses erected during 1923, 1,548 were built under the direction of the Housing Department, these forming parts of Government assisted schemes.

The City Building Surveyor has kindly furnished the following Return of Houses erected in the City:—

RETURN OF HOUSES ERECTED 1909-1923.

Annual Rental.	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Under £12	149	...	132	...	68	37	...	6	...	...	...	...	...	...	...
£12 to £18	283	119	151	41	92	38	21	49	1	...	...	...	...	...	...
...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...
£18 to £25	1,369	1,279	768	717	537	539	337	99	16	1	...	...	1	...	...
£25 to £35	191	168	109	64	43	147	83	18	2	...	...	...	...	3	18
£35 and upwards..	157	144	74	56	27	74	57	14	3	...	11	276	1,794	2,240	1,691
	2,149	1,710	1,234	878	767	835	498	186	22	1	11	276	1,795	2,243	1,709

CITY OF LIVERPOOL.

Population, Birth, Death and Infant Mortality Rates, 1881 to 1923.

Year.	Population.	No. of Births.	Birth Rate per 1000 of Population	No. of Deaths.	Death Rate per 1000 of Population	Infant Mortality Rate per 1000 Births
1881	551,617	20,762	37·6	14,733	26·7	173
1882	548,065	20,498	37·4	14,818	27·0	178
1883	544,547	19,907	36·6	15,074	27·7	185
1884	541,031	20,071	37·1	14,382	26·6	195
1885	537,548	19,464	36·2	13,764	25·6	174
1886	534,088	19,559	36·6	13,919	26·1	188
1887	530,649	18,414	34·7	14,006	26·4	186
1888	527,233	17,777	33·7	12,159	23·1	168
1889	523,838	17,676	33·7	13,047	24·9	188
1890	520,466	17,592	33·8	14,293	27·5	195
1891	518,302	17,832	34·4	13,911	26·8	188
1892	519,590	17,758	34·2	12,671	24·4	181
1893	520,882	18,328	35·2	13,919	26·7	210
1894	522,178	17,893	34·3	12,073	23·1	179
1895	*652,523	*22,006	33·7	*16,215	24·8	202
1896	658,050	21,943	33·3	14,060	21·4	175
1897	663,633	22,280	33·6	15,117	22·8	201
1898	669,243	22,227	33·2	14,853	22·2	184
1899	674,912	22,488	33·3	16,276	24·1	199
1900	680,628	22,762	33·4	15,777	23·1	186
1901	686,422	21,980	32·0	14,879	21·6	187
1902	*709,635	*24,283	34·2	*15,392	21·6	162
1903	713,628	23,910	33·5	14,240	19·9	159
1904	717,647	24,278	33·8	15,851	22·1	196
1905	*724,583	*24,350	33·6	*14,103	19·5	154
1906	728,155	24,123	33·1	15,001	20·6	171
1907	731,798	23,654	32·3	13,676	18·7	143
1908	735,423	23,891	32·5	13,930	18·9	140
1909	739,073	23,591	31,9	13,945	18·8	143
1910	742,742	23,054	31·0	13,343	17·9	139
1911	747,998	22,493	30·0	14,607	19·5	154
1912	754,143	22,233	29·5	13,364	17·7	125
1913	*760,341	*22,555	29·6	*13,658	18·0	132
1914	773,467	23,065	29·8	15,046	19·4	139
1915	779,535	21,586	27·7	14,478	18·6	133
1916	785,657	20,679	26·3	13,943	17·7	117
1917	791,828	17,906	22·6	13,093	16·5	115
1918	798,048	17,133	21·5	15,267	19·1	124
1919	804,316	18,694	23·2	13,283	16·5	110
1920	810,632	25,039	30·9	12,852	15·8	113
1921	817,000	21,904	26·8	11,666	14·3	107
1922	823,416	21,467	26·1	11,992	14·6	96
1923	829,881	20,695	24·9	11,405	13·7	99

* City Area extended.

A

The following tables I, II, III, IV, and marked also A, B, C, D, are prepared pursuant to an instruction of the Ministry of Health.

CITY OF LIVERPOOL.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1923 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each year.	Births.			Total Deaths Registered in the District.		Transferable Deaths. ‡		Nett Deaths belonging to the District.			
		Uncorrected Number	Nett.						Under 1 year of age.		At all ages.	
			Number.	Rate.	Number. *	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Number. *	Rate per 1000 Nett Births.	Number. *	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1918.....	798979	17171	17133	21·4	16077	20·1	1626	816	2137	124	15267	19·1
1919.....	804948	18845	18694	23·2	13710	17·3	923	496	2055	110	13283	16·5
1920.....	810947	25172	25039	30·9	13185	16·3	739	406	2826	113	12852	15·8
1921.....	817000	21988	21904	26·8	12075	14·8	781	372	2339	107	11666	14·3
1922.....	823095	21478	21467	26·1	12367	15·0	808	433	2052	96	11992	14·6
1923.....	829881	20630	20695	24·9	11715	14·1	724	414	2058	99	11405	13·7

Notes.—This Table is arranged to show the gross births and deaths registered in the district during the calendar year, and the births and deaths properly belonging to it with the corresponding rates. The rates should be calculated per 1,000 of the estimated gross population as stated in Column 2, without the use of the standardising factor for the district given in the Annual Report of the Registrar-General. In a district in which large Public Institutions for the sick or infirm seriously affect the Statistics, the rates in Columns 5 and 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

* In Column 6 are to be included the whole of the deaths registered during the calendar year as having actually occurred within the district, but excluding the deaths of Soldiers and Sailors that have occurred in hospitals and institutions in the district. Information as to the number and causes of such deaths should, however, be given in the text of the report. (See Table D[2] in Appendix.)

In Column 12 is entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

‡ "Transferable Deaths" are deaths of persons who, having a fixed or usual residence in England or Wales, die in a district other than that in which they resided. The deaths of persons without fixed or usual residence, *e.g.*, casuals, are not included in Columns 8 or 9, except in certain instances under 3 (*b*) below. In Column 8 the number of transferable deaths of "non-residents" are deducted, and in Column 9 the number of deaths of "residents" registered outside the district are added in calculating the net death-rate of the district.

The following special cases arise as to Transferable Deaths :—

(1) Persons dying in Institutions for the sick or infirm, such as hospitals, lunatic asylums, workhouses, and nursing homes (but not almshouses) must be regarded as residents of the district in which they had a fixed or usual residence at the time of admission. If the person dying in an Institution had no fixed residence at the time of admission, the death is not transferable. If the patient has been directly transferred from one such institution to another, the death is transferable to the district of residence at the time of admission to the first Institution.

(2) The deaths of infants born and dying within a year of birth in an Institution to which the mother was admitted for her confinement should be referred to the district of fixed or usual residence of the parent.

(3) Deaths from violence are to be referred (*a*) to the district of residence, under the general rule ; (*b*) if this district is unknown, or the deceased had no fixed abode, to the district where the accident occurred, if known ; (*c*) failing this, to the district where death occurred, if known ; and (*d*) failing this, to the district where the body was found.

Area of District in acres (land and inland water) 21,219.

Total population at all ages.....802,940 } At Census of 1921

Total families or separate occupiers ...173,823 }

TABLE II.

CITY OF LIVERPOOL.

Cases of Infectious Disease notified during the Year 1923.

Notifiable Disease	Number of Cases Notified.							
	At all Ages.	At Ages—Years.						
		Under 1	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.
pox	1	...	...	...	...	...	1	...
... ...	...	...	...	...	...	...	...	...
neria (and Croup)...	993	27	298	418	162	76	12	...
elas	395	15	14	23	53	108	138	44
t fever	2307	19	553	1410	245	76	4	...
is fever	...	...	...	...	...	...	...	...
ic fever	16	...	1	2	7	4	2	...
eral fever	43	...	...	...	17	26	...	...
ro-Spinal Fever	8	4	2	2	...	...	...	...
myelitis	39	4	24	10	1	...	...	...
almia Neonatorum	707	707	...	...	...	...	...	...
onary Tuberculosis	2108	16	76	357	430	804	390	35
culosis other than Pulmonary ...	584	21	100	285	109	55	13	1
rax	4	...	...	...	...	2	2	...
les and German Measles	11089	626	4756	5568	139	...	...	...
monia and Influenzal Pneumonia	1946	192	657	273	241	343	183	57
ria	36	...	...	1	9	23	3	...
ch Fever	1	...	...	...	...	1	...	...
ntery	8	1	3	2	...	2	...	...
phalitis Lethargica...	111	...	1	38	42	17	10	3
Totals	20396	1632	6485	8389	1455	1537	758	140

City Hospital North, Netherfield Road.
" " South, Grafton Street.
" " East, Mill Lane, Old Swan.
" " Fazakerley Isolation.
" " do. Annexe.
" " Sparrow Hall, Fazakerley.
Sanatorium, Fazakerley.
" Park Hill.
" Highfield.

} All within the City.

All the above Institutions are provided by the Corporation of Liverpool.

TABLE III.

CITY OF LIVERPOOL.

C

Causes of, and ages at, Death during the Year 1923.

(See notes at back.)

Causes of Death.	Nett Deaths at the Subjoined Ages of "Residents" whether occurring within or without the District (a).									Total Deaths whether of "Residents" or "non-Residents" in Institutions in the District (b).
	All ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
1	2	3	4	5	6	7	8	9	10	11
All causes (Certified (c))	11340	2039	839	480	398	559	1419	2742	2864	—
All causes (Uncertified)	65	19	2	—	2	—	—	14	28	4
1. Enteric Fever	6	—	—	—	—	5	1	—	—	6
2. Small-pox	—	—	—	—	—	—	—	—	—	—
3. Measles	356	99	172	75	10	—	—	—	—	237
4. Scarlet Fever	43	—	3	25	12	2	—	1	—	43
5. Whooping Cough	156	68	56	29	3	—	—	—	—	77
6. Diphtheria and Croup	87	9	17	40	18	—	1	2	—	80
7. Influenza	114	4	2	—	3	9	27	30	39	9
8. Erysipelas	27	1	1	1	—	2	4	11	7	25
9. Phthisis (Pulmonary Tuberculosis)	1046	13	17	15	53	245	444	226	33	583
10. Tuberculous Meningitis	98	12	23	27	23	9	2	2	—	79
11. Other Tuberculous Diseases	165	23	17	22	33	26	25	15	4	108
12. Cancer, malignant disease.	921	—	—	2	1	5	89	517	307	445
13. Rheumatic Fever	41	—	—	1	14	9	6	6	5	14
14. Meningitis (*See* note (*d*))	56	18	11	11	9	3	1	2	1	15
15. Organic Heart Disease	860	—	—	1	12	27	112	319	389	333
16. Bronchitis	1117	182	41	17	5	7	49	309	507	344
17. Pneumonia (all forms)	1505	374	284	126	54	45	171	260	191	635
18. Other diseases of Respiratory organs	134	15	4	6	2	4	19	47	37	44
19. Diarrhœa and Enteritis. (*See* note (*e*))	364	281	83	—	—	—	—	—	—	151
20. Appendicitis and Typhlitis	52	1	—	1	11	10	10	16	3	50
21. Cirrhosis of Liver	19	—	—	—	—	—	2	13	4	16
21a. Alcoholism	6	—	—	—	—	—	1	3	2	5
22. Nephritis and Brigbt's Disease	327	2	1	2	8	11	39	174	90	187
23. Puerperal Fever	16	—	—	—	—	8	8	—	—	16
24. Other accidents and diseases of Pregnancy and Parturition	47	—	—	—	—	4	40	3	—	31
25. Congenital Debility and Malformation, including Premature Birth	689	660	23	5	1	—	—	—	—	239
26. Violent Deaths, excluding Suicide	301	15	30	29	38	33	59	67	30	208
27. Suicide	59	—	—	—	—	3	24	28	4	15
28. Other Defined Diseases	2759	281	56	45	89	89	279	694	1226	1476
29. Diseases, ill-defined or unknown	34	—	—	—	1	3	6	11	13	6
Totals	11405	2058	841	480	400	559	1419	2756	2892	5477
Sub-Entries included in above figures— Cerebro-Spinal Meningitis	6	3	1	1	1	—	—	—	—	4
Poliomyelitis & Polioencephalitis	6	1	—	1	3	—	1	—	—	2
*Encephalitis Lethargica	36	—	—	1	5	11	8	9	2	21
*Anthrax	2	—	—	—	—	—	1	1	—	—
*Pneumonia	634	59	54	43	27	37	123	185	106	253

* Sub-Entries should here be made for other deaths which it is desirable to distinguish, on account of their administrative importance or special interest (*e.g.* any deaths from Anthrax, Typhus or Glanders, which have been included under 28, *Other Defined Diseases*; or deaths from pneumonia other than broncho pneumonia which have been included under 17, *Pneumonia all forms*).

NOTES TO TABLE III.

The classification and numbering of Causes of Death are those of the "Short List" on page XXV. of the Manual of the International List of Causes of Death, which has been consulted and followed in all cases of doubt.

(*a*) All "Transferable Deaths" of residents, *i.e.*, of persons resident in the District who have died outside it, are *included* with the other deaths in Columns 2-10. Transferable deaths of non-residents, *i.e.*, of persons resident elsewhere in England and Wales who have died in the District, are in like manner *excluded* from these columns. For the precise meaning of the term "transferable deaths" *see* footnote to Table I.

The total deaths in Column 2 of Table III. equal the figures for the year in Column 12 of Table I.

(*b*) All deaths occurring in institutions for the sick and infirm situated within the district, whether of residents or of non-residents, are entered in the last column of Table III.

(*c*) All deaths certified by registered Medical Practitioners and all Inquest cases are classed as "Certified"; all other deaths are regarded as "Uncertified."

(*d*) Exclusive of "Tuberculous Meningitis" (10), but inclusive of Cerebro-Spinal Meningitis.

(*e*) Title 19 has been used for deaths from Diarrhœa and Enteritis of children under 2 years of age. (In the "Short List" deaths from Diarrhœa, and Enteritis under 2 years are included under Title 19; those at 2 years and over being placed under Title 28.)

TABLE IV.

CITY OF LIVERPOOL.

INFANT MORTALITY DURING THE YEAR 1923.

Nett Deaths from stated Causes at various Ages under One Year of Age.

(See Note (*a*) at back).

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks	3-4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes. Certified	393	112	91	56	652	360	359	353	315	2039
All Causes. Uncertified	14	—	1	1	16	1	—	2	—	19
Small-pox	—	—	—	—	—	—	—	—	—	—
Chicken-pox	—	—	—	—	—	—	—	1	—	1
Measles	—	—	—	1	1	3	7	28	60	99
Scarlet Fever	—	—	—	—	—	—	—	—	—	—
Whooping Cough	—	—	—	—	—	10	12	26	20	68
Diphtheria and Croup	—	—	—	—	—	—	—	4	5	9
Influenza	—	—	—	—	—	1	2	1	—	4
Erysipelas	—	—	—	—	—	—	1	—	—	1
Tuberculous Meningitis	—	—	—	1	1	—	—	6	5	12
Abdominal Tuberculosis (*b*)	—	—	—	—	—	4	3	5	3	15
Other Tuberculous Diseases	—	—	—	—	—	—	1	4	3	8
Meningitis (*not Tuberculous*)	1	1	—	—	2	1	1	5	6	15
Convulsions	20	7	2	3	32	11	6	13	4	66
Laryngitis	—	—	—	—	—	1	1	—	1	3
Bronchitis	2	4	13	5	24	49	35	42	32	182
Pneumonia (all forms)	3	6	7	7	23	52	104	101	94	374
Diarrhœa	1	4	1	—	6	30	31	25	15	107
Enteritis	—	4	2	2	8	43	54	47	22	174
Gastritis	—	—	—	2	2	3	4	1	2	12
Syphilis	3	3	6	3	15	18	4	2	—	39
Rickets	—	—	—	—	—	1	2	—	2	5
Suffocation, overlying	2	—	—	—	2	5	—	—	—	7
Injury at Birth	12	—	1	—	13	—	—	—	—	13
Atelectasis	30	3	—	—	33	4	—	—	—	37
Congenital Malformations (*c*)	25	5	6	1	37	12	10	8	3	70
Premature Birth	245	50	29	16	340	29	6	—	—	375
Atrophy, Debility and Marasmus	35	12	12	11	70	64	48	20	13	215
Other Causes	28	13	12	5	58	15	22	20	16	131
	407	112	92	57	668	361	359	355	315	2058

Nett Births in the year { Legitimate ... 19,922 ; Illegitimate ... 773 }

Nett Deaths in the year of { Legitimate Infants 1,862 ; Illegitimate Infants 196 }

NOTES TO TABLE IV.

(*a*) The total in the last column of Table IV. should equal the total in column 10 of Table I., and in column 3 of Table III.

(*b*) Under Abdominal Tuberculosis are to be included deaths from Tuberculous Peritonitis and Enteritis and from Tabes Mesenterica.

(*c*) The total deaths from Congenital Malformations, Premature Birth, Atrophy, Debility and Marasmus, should equal the total in Table III. undr the heading Congenital Debility and Malformation, including Premature Birth.

Want of Breast Milk is included under Atrophy and Debility.

(*d*) For references to the meaning of any other headings, *see* notes attached to Table III.

In recording the facts under the various headings of Tables I., II., III. and IV., attention has been drawn to the notes on the Tables.

LIVERPOOL.

Diagram showing Birth Rate (B.R.) per 1,000 of estimated
" " Death " (D.R.) population.
" " number of deaths of Infants under One Year out of every 1,000 born (I.M.)
" " estimated population per acre, excluding Docks and Quays and including Parks and Open Spaces (Pop).

In each of the districts of the City during 1923.

FAZAKERLEY
B.R. 19·3
D.R. 7·8
I.M. 41
Pop. 3·7

WEST DERBY-EAST
B.R. 25·7
D.R. 11·7
I.M. 73
Pop. 26·7

WOOLTON
B.R. 23·8
D.R. 11·1
I.M. 52
Pop. 2·1

WAVERTREE
B.R. 19·7
D.R. 11·7
I.M. 63
Pop. 25

WALTON
B.R. 18·6
D.R. 11·3
I.M. 86
Pop. 45·2

WEST DERBY-WEST
B.R. 24·6
D.R. 13·6
I.M. 91
Pop. 140·4

TOXTETH-EAST
B.R. 15·7
D.R. 12·5
I.M. 56
Pop. 27·2

GARSTON
B.R. 21·7
D.R. 10·6
I.M. 90
Pop. 18·6

EVERTON
B.R. 28
D.R. 14·9
I.M. 100
Pop. 188·5

KIRKDALE
B.R. 25·7
D.R. 13·2
I.M. 98
Pop. 103·9

ABERCROMBY
B.R. 23·8
D.R. 17·0
I.M. 139
Pop. 68·5

TOXTETH
B.R. 25.7
D.R. 13·5
I.M. 105
Pop. 136·9

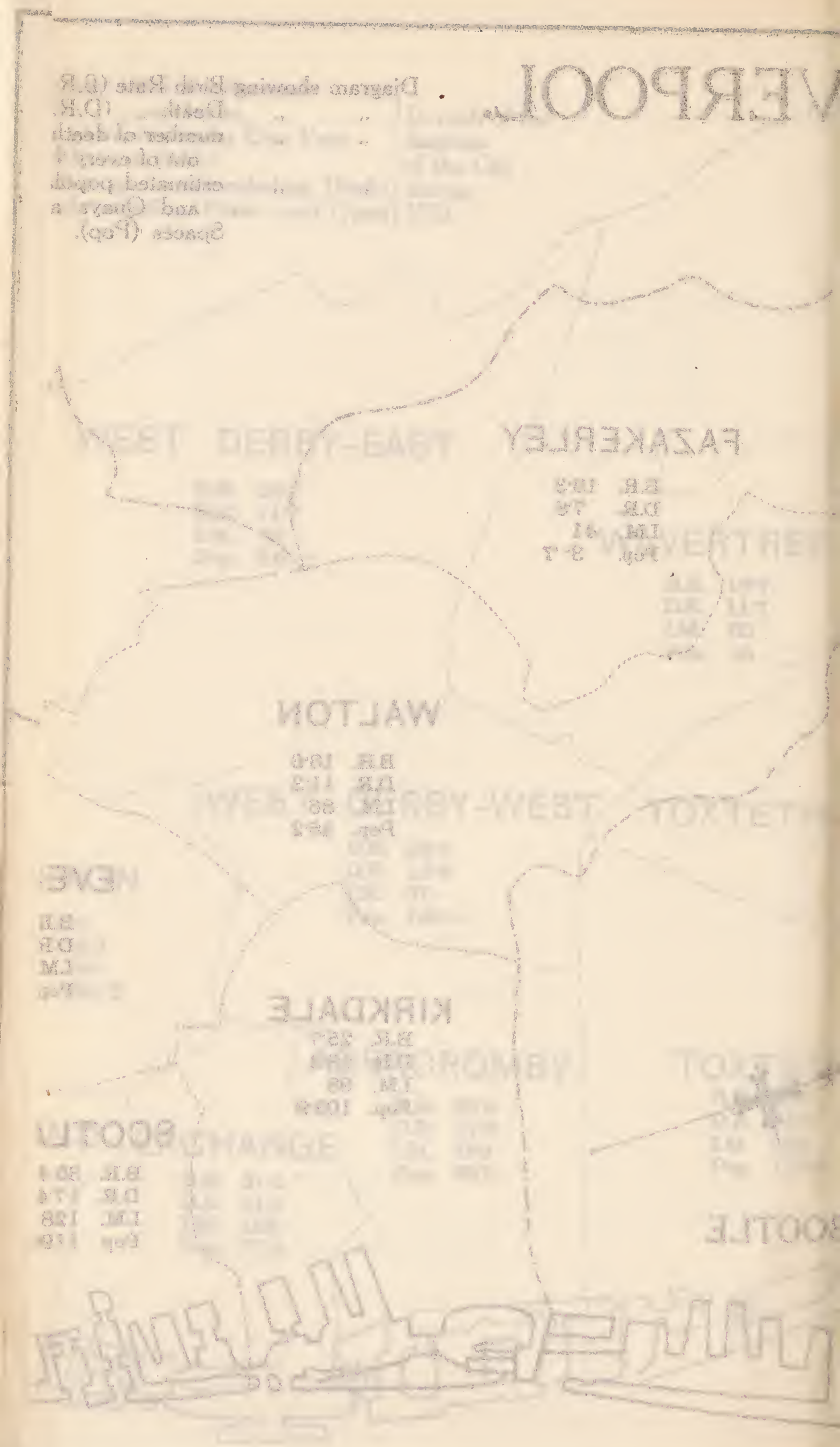
SCOTLAND
B.R. 35·4
D.R. 17·4
I.M. 128
Pop. 119·5

EXCHANGE
B.R. 31·6
D.R. 21·1
I.M. 158
Pop. 77·3

BOOTLE

1923
Population 829,881.

Birth Rate for whole City	24·9
Death " " " "	13·7
Infantile Death Rate per 1,000 Births	99
Population per acre, whole City	40·6



DEATHS REGISTERED IN THE CITY OF LIVERPOOL,

DURING THE YEAR 1923.

CAUSE OF DEATH.	SEX. Males	SEX. Females	AGE—BELOW 1	2	3	1	5	10	15	20	25	30	10	15	50	60	65	70	80	90 and upwards
ALL CAUSES	6030	5375	2058	811	268	116	66	221	176	249	310	270	701	448	579	1383	794	835	1472	517	37
I.—General Diseases	1735	1645	281	331	193	76	37	110	67	147	181	142	315	192	211	165	212	194	237	45	...
II.—Diseases of the Nervous System	477	464	100	27	10	9	1	15	31	19	16	21	55	35	41	157	90	94	176	40	3
III.—Diseases of the Circulatory System	741	701	8	4	1	...	2	12	21	25	27	81	71	55	88	215	178	218	345	138	3
IV.—Diseases of the Respiratory System	1188	1268	571	322	94	38	17	38	23	28	33	30	122	87	121	306	189	197	386	144	8
V.—Diseases of the Digestive System	421	342	317	93	13	10	1	16	12	11	7	9	26	24	32	79	37	25	40	11	...
VI.—Diseases of the Genito Urinary System	220	181	8	2	2	...	1	6	2	2	11	6	31	21	46	98	55	47	66	11	...
VII.—The Puerperal State	...	63	...	...	...	...	...	...	...	...	1	11	15	28	5	3	...	...	...	...	...
VIII.—Diseases of the Skin, &c.	13	33	3	1	...	...	...	1	...	...	...	6	1	1	7	4	4	14	3	...	...
IX.—Diseases of the Bones, &c.	7	14	2	1	...	1	...	2	1	...	3	...	...	1	1	2	1	2	...	1	...
X.—Malformations	43	35	70	6	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
XI.—Diseases of Early Infancy	399	279	657	17	3	...	1	...	...	...	...	...	...	...	...	...	11	34	187	153	18
XII.—Old Age	174	229	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	34	187	153	18
XIII.—Affect. from External Causes	257	103	15	30	11	12	6	23	15	20	16	15	42	26	31	19	12	11	19	4	...
XIV.—Ill-defined Causes	16	18	...	...	...	...	...	1	1	2	1	4	1	1	5	5	9	2	2	...	...

CAUSE OF DEATH.	DISTRICTS. Scotland	Exe Change	Abercromby	Everton	Kirkdale	West Derby (South)	Toxteth	Walton	West Derby (East)	Wavertree	Toxteth (East)	Garston	Prescot Dist.	Woolton	City of Liverpool.
ALL CAUSES	165	358	423	1024	586	665	827	647	685	349	319	202	35	72	11405
I.—General Diseases	104	72	125	250	134	178	200	182	185	113	99	42	8	26	3380
II.—Diseases of the Nervous System	27	26	32	85	56	89	78	60	59	51	35	18	5	6	911
III.—Diseases of the Circulatory System	43	57	57	102	66	76	116	89	88	54	67	40	8	12	1415
IV.—Diseases of the Respiratory System	173	112	105	367	168	204	237	160	147	65	55	51	12	17	2756
V.—Diseases of the Digestive System	52	72	33	37	...	1	...	40	1	11	14	...	...	2	705
VI.—Diseases of the Genito Urinary System	44	26	25	62	49	30	42	31	22	11	11	8	5	2	1	1	1	1	1	1	110
VII.—The Puerperal State	18	23	26	5	3	3	53	...	2	7	5	...	...	...	63
VIII.—Diseases of the Skin, &c.	14	6	9	31	7	17	25	26	29	11	11	12	...	1	76
IX.—Diseases of the Bones, &c.	1	...	1	3	3	2	1	1	2	...	...	3	...	...	16
X.—Malformations	1	1	2	4	...	3	2	1	1	...	1	...	...	1	78
XI.—Diseases of Early Infancy	52	72	33	37	...	1	...	40	1	11	14	...	...	2	705
XII.—Old Age	1	1	2	4	...	3	2	1	1	...	1	...	...	1	78
XIII.—Affect. from External Causes	18	23	26	5	3	3	53	...	2	7	5	...	...	...	63
XIV.—Ill-defined Causes	1	9	1	2	...	...	1	12	...	...	1	3	...	...	16

CAUSE OF DEATH.	PUBLIC INSTITUTIONS. Extra District	Abercromby District: David Lewis Northern Hospital	Liverpool Hospital for Infectious Diseases	Royal Infirmary	Royal Liverpool Children's Hospital	Hahnemann Hospital	Maternity Hospital	Consumptives Hospital	Mill Road Infirmary	Northern Hospital	Stanley Hospital	Everton District: Northern Hospital	New Stanley Hospital	Kirkdale District: Stanley Hospital	Toxteth District: Royal Southern Hospital	Grafton Street Hospital	Parkhill Hospital	Walton District: Walton Hospital	Belmont Road Institution	Mill Lane Institution	West Derby District: Highfield Infirmary	Toxteth (East): Toxteth Institution	Prescot District: Kemberley Hospital	Other Institutions.	No Address.	City of Liverpool.
ALL CAUSES	165	938	201	170	13	51	11	608	17	9	95	128	50	32	640	37	86	182	515	123	661	...	11405
I.—General Diseases	41	293	19	48	6	...	10	139	14	5	25	39	17	32	199	7	79	182	127	91	226	...	3380
II.—Diseases of the Nervous System	11	82	15	10	...	5	...	83	...	...	5	8	...	...	43	6	1	...	66	5	25	...	911
III.—Diseases of the Circulatory System	13	197	25	1	1	1	...	68	1	...	6	9	...	...	158	3	1	...	45	2	39	...	1415
IV.—Diseases of the Respiratory System	21	218	18	35	3	3	...	177	1	...	8	26	2	...	124	7	3	...	95	18	148	...	2756
V.—Diseases of the Digestive System	32	72	33	37	...	1	...	40	...	1	11	14	...	...	23	2	1	...	30	2	106	...	705
VI.—Diseases of the Genito Urinary System	44	26	25	62	49	30	42	31	22	11	11	8	5	2	27	2	1	...	24	1	11	...	110
VII.—The Puerperal State	18	23	26	5	3	3	53	...	2	7	5	...	...	...	9	...	...	...	1	...	6	...	63
VIII.—Diseases of the Skin, &c.	1	9	1	2	...	...	...	13	1	...	1	3	...	...	14	3	...	...	12	...	6	...	76
IX.—Diseases of the Bones, &c.	1	3	2	...	...	...	...	2	...	...	...	1	...	...	1	...	...	...	1	...	2	...	16
X.—Malformations	1	2	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	1	...	3	...	78
XI.—Diseases of Early Infancy	1	13	1	...	...	...	...	7	...	...	...	1	...	...	1	...	71	...	7	...	...	...	87
XII.—Old Age	...	84	...	...	...	...	...	84	...	...	...	2	...	...	11	5	...	...	91	...	7	...	403
XIII.—Affect. from External Causes	1	47	1	...	1	...	...	47	1	...	3	5	...	...	29	...	...	...	16	2	10	...	257
XIV.—Ill-defined Causes	1	20	1	...	...	...	...	20	1	...	1	1	...	...	2	...	...	...	6	1	19	...	34

CAUSE OF DEATH.	SEX. Males	SEX. Females	AGE—BELOW 1	2	3	1	5	10	15	20	25	30	10	15	50	60	65	70	80	90 and upwards
Class 1.—Enteric Fever	1	3	...	...	...	...	...	...	...	2	3	...	...	1	...	...	...	...	...	...	...
Malaria	3	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...
Dysentery	4	1	1	...	...	...	1	1	...	...	...	1	1	...	...	...	...	...	...	...	...
Measles	197	159	99	172	55	18	2	10	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	23	20	...	3	2	7	9	10	2	1	1	...	...	...	...	1	...	...	...	...	...
Whooping-Cough	71	85	68	56	15	8	6	8	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	47	40	9	17	17	18	5	16	2	...	...	...	...	1	1	...	...	...	...	...	...
Influenza	48	66	4	2	...	...	1	2	5	4	5	18	4	6	13	11	12	22	5	...	...
Erysipelas	13	14	1	1	...	...	1	...	1	1	3	3	2	...	8	...	2	2	...	...	...
Pyæmia, etc.	2	1	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Chickenpox	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...
Tub., Pulmonary	590	156	13	17	10	3	2	21	32	98	147	108	214	122	97	99	31	18	14	...	...
,, Meningitis	14	14	12	2	1	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...
,, Peritonitis, etc.	32	42	15	10	5	6	1	12	6	8	1	8	1	2	1	2	...	1	...	...	...
,, Other Organs	57	34	8	7	5	3	2	8	7	10	7	9	8	2	7	3	2	2	1	...	...
Rickets	13	12	5	16	2	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Syphilis	32	11	29	1	1	...	...	...	1	...	...	2	...	...	1	1	...	...	...	...	...
Cancer Buccal Cavity	89	7	...	...	1	...	...	...	...	...	...	...	...	4	6	43	14	14	12	2	...
,, Stomach, etc.	114	187	...	...	...	...	...	...	...	1	2	5	8	21	80	42	40	45	7	...	...
,, Intestines, etc.	94	66	...	...	...	...	...	...	...	1	1	4	5	13	44	30	25	28	9	...	...
,, Female Genital Organs	...	116	...	...	...	...	...	...	...	...	...	11	7	14	36	19	11	15	1	...	...
,, Breast	...	70	...	...	...	...	...	...	...	...	...	...	1	1	1	2	2	1	6	1	...
,, Skin	11	5	...	...	...	...	...	...	...	...	1	1	1	1	2	2	1	2	1	...	...
,, Other forms	123	89	...	...	...	1	1	...	2	1	4	11	12	22	71	22	28	20	3	...	...
Other Tumours	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...
Rheumatic Fever	20	21	...	...	...	1	7	7	6	3	...	5	1	1	3	2	2	2	1	...	...
Chronic Rheumatism	26	31	...	...	...	...	...	...	1	...	1	...	...	3	4	9	12	22	5	...	...
Diabetes	35	34	...	...	...	...	...	2	1	3	1	12	5	3	13	6	9	12	2	...	...
Exoph. Goitre	1	9	...	...	...	...	...	...	...	...	...	4	...	...	3	1	1	1	...	...	...
Leucocythæmia	6	7	...	1	1	...	...	...	...	2	...	2	1	...	...	1	...	2	...	...	...
Hedgehog's Disease	1	8	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Anæmia	12	30	2	...	1	...	1	1	...	3	1	4	2	4	5	9	2	5	2	...	...
Other General Diseases	2	1	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	1	...	...	...
Alcoholism	4	2	...	...	...	...	...	...	...	...	...	...	1	...	1	2	...	2	...	...	...
Purpura Hæmorrhagica	3	2	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...
Occupational Poisoning	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Class 2.—Encephalitis	3	...	1	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...
,, Lethargica	18	18	...	...	...	1	...	5	4	7	1	3	4	1	5	3	1	1	...	...	...
Meningitis	28	21	15	9	6	3	1	5	3	2	1	...	...	1	...	2	...	1	...	...	...
Cerebro-Spinal Fever	6	6	3	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
,, Meningitis	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Locomotor Ataxy	17	1	...	...	...	...	...	...	...	...	...	1	1	...	1	8	4	...	2	...	...
Other Diseases Spinal Cord	10	18	...	...	...	...	...	1	1	...	...	2	5	3	4	7	1	...	4	...	...
Poliomyelitis	3	2	...	...	...	1	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...
,, Encephalitis	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebral Hæmorrhage	205	224	8	...	...	2	...	2	...	...	...	1	8	7	12	96	61	68	136	35	3
Paralysis	40	50	...	...	...	...	...	...	1	...	...	...	1	3	9	9	18	18	28	3	...
General Paralysis Insane	38	9	...	...	...	...	...	...	...	...	...	1	...	17	10	8	9	...	2	...	...
Epilepsy	16	24	...	...	1	...	...	1	1	3	3	10	5	3	1	9	...	2	1	...	...
Convulsions (under 5 years)	53	30	6	16	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
,, (over 5 years)	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Neuritis	...	2	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...
Other Diseases Nervous System	27	34	...	...	...	...	...	8	5	2	4	11	1	3	10	3	4	3	2	...	...
Mastoid Disease	10	14	6	...	1	2	...	3	8	3	2	1	4	...	1	1	...	...	...	...	...
Class 5.—Pericarditis	7	2	1	1	...	...	1	1	...	1	...	...	1	...	2	...	...	...	1	...	...
Acute Endocarditis	49	49	...	1	...	...	...	1	2	7	9	7	9	3	4	17	12	7	2	...	...
Valvular Disease, etc.	388	372	...	...	...	...	1	2	10	12	15	21	51	40	68	140	111	133	187	66	3
Disease of Blood Vessels	256	152	...	...	...	...	...	...	...	1	...	1	5	5	9	52	50	70	147	63	5
Embolism, etc.	26	26	...	...	...	...	...	1	...	3	2	3	6	5	6	5	8	8	4	...	...
Diseases of Lymphatic System	13	3	7	2	1	...	...	1	1	...	...	...	2	1	...	...	...	...	...	...	...
Class 4.—Disease of Larynx	4	4	3	1	1	2	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
,, Thyroid	2	3	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	1	1	...	...
Bronchitis	553	564	162	41	10	7	...	2	3	3	4	5	20	24	49	152	108	122	269	109	7
Broncho-pneumonia	468	403	315	230	55	20	8	20	7	2	6	3	31	14	15	34	26	20	48	17	...
Pneumonia	394	249	59	54	26	9	6	14	13	16	21	24	61	41	47	93	44	43	48	14	1
Pleurisy	23	18	1	2	1	...	1	2	...	1	1	...	5	3	1	5	6	2	7	...	...
Pulmonary Congestion	15	13	8	1	...	...	...	...	...	...	...	1	...	1	1	3	1	2	6	4	...
Asthma	20	18	...	...	...	...	...	...	1	...	...	...	4	3	4	14	3	4	5	...	...
Other Respiratory Diseases	9	5	...	...	1	...	...	...	...	...	...	...	1	1	4	2	...	3	2	...	...
Class 5.—Disease of Mouth	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Pharynx	4	6	1	2	1	2	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...
Ulcer of Stomach	29	11	...	...	...	...	...	...	...	3	...	2	5	8	8	6	4	2	2	...	...
Inflammation of Stomach	23	25	12	6	1	1	...	2	2	...	...	1	...	2	1	5	5	1	6	3	...
Diarrhœa	86	62	107	29	2	...	...	2	...	...	...	...	...	1	3	...	...	2	1	1	...
Enteritis	151	123	174	51	8	4	...	5	...	1	...	2	2	1	5	3	3	2	1	1	...
Appendicitis	32	20	1	...	...	1	4	7	7	3	2	6	2	2	5	6	5	2	1	...	...
Hernia, etc.	11	21	2	...	...	...	...	...	...	...	...	...	1	2	11	2	5	8	...	...	...
Intestinal Obstruction	34	29	15	...	1	...	1	1	...	2	...	4	3	3	11	9	3	4	5	...	...
Cirrhosis	14	5	...	...	...	...	...	...	...	...	1	1	3	3	...	19	4	4	8	1	...
Disease of Liver, etc.	20	25	...	...	...	...	...	...	...	1	...	3	4	...	3	1	1	3	1	...	...
Peritonitis	9	11	1	2	...	...	1	1	...	1	...	...	...	1	1	1	1	...	...	...	...
Other Diseases of Digestive System	8	4	2	...	...	1	...	...	...	...	...	...	...	1	1	1	1	...	4	...	...
Class 6.—Acute Nephritis	67	65	2	1	1	...	1	6	1	1	5	3	10	3	9	37	15	15	18	4	...
Bright's Disease	108	87	...	...	...	...	...	1	1	4	1	9	13	32	48	33	28	28	2	...	...
Other Diseases of the Kidneys	12	8	1	1	1	...	...	...	...	...	...	4	3	1	5	2	1	1	...	...	...
Disease of Bladder	16	4	...	...	...	...	...	...	...	...	1	3	2	1	1	1	2	6	3	...	...
,, Prostate	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	5	9	2	...
,, Urethra	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	2	...	...
,, Uterus	...	15	...	...	...	...	...	...	...	1	...	...	5	...	3	3	1	...	2	...	...
Other Diseases of Fem. G. Organs	...	2	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...
Class 7.—Accidents of Pregnancy	...	11	...	...	...	...	...	...	...	4	7	12	5	3	...	...	...	...	...	...	...
Puerperal Fever	...	16	...	...	...	...	...	...	1	7	6	2	...	...	...	...	...	...	...	...	...
,, Convulsions	...	6	...	...	...	...	...	...	...	...	2	4	...	...	...	...	...	...	...	...	...
Class 8.—Pemphigus	12	14	26	...	...	...	...	...	...	...	...	...	...	...	...	2	1	1	11	3	...
Gangrene	8	12	1	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	1	...	...
Cellulitis	15	4	2	1	...	...	...	1	...	...	...	4	1	1	5	...	3	2	3	...	...
Diseases of Integum. System	8	3	5	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Class 9.—Disease of Bones, etc.	7	11	2	1	...	1	...	2	1	...	3	...	...	1	1	2	1	3	...	1	...
Class 10.—Malformations	43	35	70	6	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Class 11.—Premature Birth	214	161	375	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atrophy, Debility, etc.	144	92	215	17	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis	28	9	37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Injury at Birth, etc.	6	7	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lack of Care	6	8	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Infancy	1	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Class 12.—Old Age	174	229	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	34	187	153	18
Class 13.—																					
Suicide by, Coal Gas	19	9	...	...	...	...	...	...	...	2	2	5	...	6	5	...	1	1	...	...	...
Hanging	7	3	...	...	...	...	...	...	...	...	2	4	...	1	1	...	...	1	...	...	...
Poison	3	2	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...
Cutting Throat	10	3	...	...	...	...	...	...	...	...	...	1	2	1	3	6	...	...	...	...	...
Other Suicides	2	1	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...
Injuries: Accidentally Poisoned (Coal Gas)	2	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...
Do. do. (Alcohol Gas)	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. do. (Poison)	3	2	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	2	...	1	...
Burns, Scalds, etc.	40	31	5	24	9	8	4	5	1	2	...	...	1	1	...	1	2	...	2	3	1
Suffocation	5	5	7	1	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...
Accidentally Hanged	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Do. Drowned	30	9	...	1	...	...	1	1	4	8	2	2	1	5	7	9	1	1	...	...	...
Gunshot Wound	4	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...
Injuries	116	36	2	...	2	4	2	14	13	13	4	4	15	11	11	22	11	4	14	2	...
Homicide	3	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...
Other Violence	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...
Class 14.—Dropsy	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syncope	4	1	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...
Ill-defined Causes	12	11	...	...	...	...	...	...	1	1	1	...	...	...	2	...	1	4	5	8	...
MALES	6030	.	1174	451	141	71	39	115	88	141	157	134	358	257	330	808	429	463	671	191	12
FEMALES	.	5375	884	360	127	75	27	106	88	108	153	136	343	191	249	575	365	372	802	326	25

CAUSE OF DEATH.	DISTRICTS. Scotland	Exe Change	Abercromby	Everton	Kirkdale	West Derby (South)	Toxteth	Walton	West Derby (East)	Wavertree	Toxteth (East)	Garston	Prescot Dist.	Woolton	City of Liverpool.
Class 1.—Enteric Fever	...	...	...	...	...	...	...	...